THE NEW-YORK

JOURNAL OF MEDICINE

FOR MAY, 1857.

PART FIRST.

ORIGINAL COMMUNICATIONS.

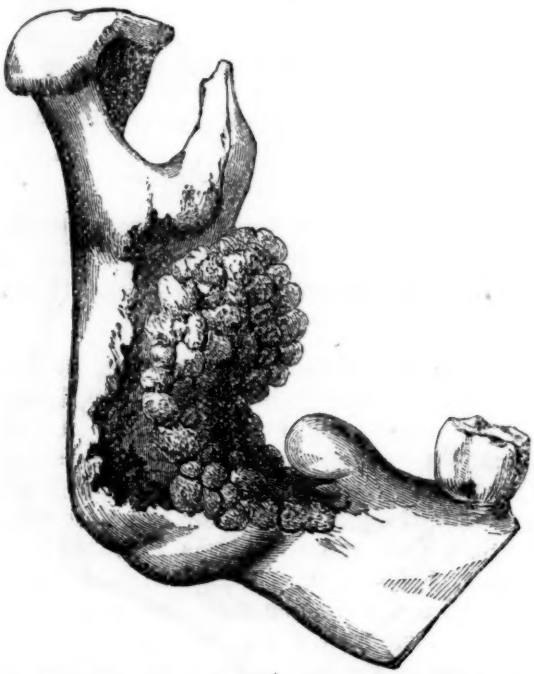
ART. I.—*Case of Disarticulation and Removal of nearly the Lateral half of the Lower Jaw.* By C. E. ISAACS, M.D., Demonstrator of Anatomy in the University of New York. [With three Illustrations.]

MR. B., a merchant of this city, residing in Brooklyn, æt. 32 years; of good constitution; in June, 1851, began to complain of some slight pain and uneasiness in the region of the jaw, near the wisdom tooth of the right side, which had not yet made its appearance. In October, 1852, the gum over it was lanced by a dentist, for the first time. During the year 1853, this operation was repeated several times. In December, 1853, it was freely incised by Dr. Bell, of Brooklyn, and some matter was discharged. In October, 1854, Dr. Bell removed a portion of the gum, from over the tooth. During the fall of 1854, he had frequent hæmorrhage from the part, until December of the same year. Dr. Kissam and Dr. Bell then removed a large portion of the surrounding parts, with the wisdom tooth, which was found lying crosswise, and out of its socket. In January, 1855, a fungous mass, was perceived, to which the nitrate of silver was several times applied, and upon one occasion the actual cautery was used. In March, Mr. B. consulted Dr. N. R. Smith, the distinguished Professor of Surgery, in Baltimore. He was under his care for about two months.

As the patient resided in Brooklyn, on his return home,

Dr. Smith was so kind as to place him under my charge, explaining to me, at the same time, his opinion that the disease was probably of a malignant character. I first saw the patient in the early part of June, 1855, and found, on examination, a fungous mass protruding from the jaw, in the situation formerly occupied by the molar teeth. Observing this carefully for several days, I could not resist the conviction that it was cancerous. I removed a small portion with the scissors, and, placing it under the microscope, found in it abundance of cancerous cells.

FIG. 1.



Appearance of the cancerous mass on the outer surface of the jaw.

I then introduced the patient to Professor Van Buren, without expressing any opinion to him as to its nature; he was decidedly of opinion that it was malignant, and that the removal of the jaw was the only chance for the safety of the patient; Dr. Gurdon Buck, who saw the case a few days afterwards, was of the same opinion. Accordingly, I proceeded to operate on the 10th of June, 1855. There were present Drs. Van Buren, Buck, Markoe, Elliot, Gouley, Bell, Catlin of Youngstown, Niagara Co., N. Y. and Lorette,

of Williamsburg. My friend Dr. George T. Elliot placed the patient under the influence of chloroform, which produced the happiest effect; the patient remaining insensible during the whole of the operation. I made a semilunar incision, commencing a little below the articulation of the lower jaw, and extending downwards along the posterior border of the ramus, and under and along the base of the jaw, following its curve until it reached a point opposite the canine tooth.

Fig. 2.

Appearance of the cancerous mass on the inner surface of the jaw.—A, cancerous materia protruding from a button-like shell of bone.

In this incision, the branches of the portio dura were necessarily divided; the facial artery was secured between two ligatures, and then divided. The masseter muscle and soft parts were dissected up, so as to form a flap, which was turned upwards from the bone, and over the face; the knife was then carried close along the inside of the bone, so as to divide the attachment of the mylo-hyoideus

and the mucous membrane of the mouth at a point opposite the first bicuspid tooth, which was then extracted. By the assistance of Drs. Buck and Van Buren, the chain saw was passed around the jaw at this point, and the bone was here divided. The attachment of the internal pterygoid muscle was divided close to the bone; the nthe dental artery and nerve; by depressing the bone, the insertion of the temporal muscle into the coronoid process was separated; then the attachment of the external pterygoid to the neck of the lower jaw. The capsule was next opened on its external surface; then, by carrying the knife behind the capsule, it, with the remaining parts, was entirely divided, and the disarticulation completed. The hæmorrhage was inconsiderable, probably amounting to six or eight ounces of blood.

FIG. 3.

Cells from the interior surface of the Masseter Muscle.

On looking at the internal surface of the masseter muscle, I noticed it had evidently been contaminated by the disease; I therefore removed the whole of it, and also all the accessible portions of the internal and external pterygoid and temporal muscles, as well as all other parts which had a suspicious appearance, so far as it was safe to do so. After arresting the hæmorrhage, and carefully cleaning the surface of the wound, it was brought together by the interrupted suture, adhesive strips, etc., etc.

I was much assisted in the dressing by my friend Dr. Bell, who was so kind as to take charge of the patient for me after the operation, and to his skillful care and attention I attribute much of its success. I examined the inner surface of the masseter muscle, after the operation, and found it filled with cancer cells; I then cut off a thick slice of the inner surface, and, on examining the remaining portion of the muscle from which the slice had been so removed, found but few cells. On making successive slices, the cells were found less and less numerous, until, on approaching the outer surface of the muscle, no cells could be discovered. The wound, throughout a great portion of its extent, united by first intention, but was not entirely healed until October; no unfavorable symptom having occurred during his convalescence.

For many months there was partial paralysis of the branches of the portio dura which had been divided, in consequence of which the muscles were drawn to the opposite side, and it was difficult to close the eyelids. It is now nearly twenty months since the operation. I have this day seen the patient, who is in excellent health, and has gained in weight several pounds. The appearance of the parts in and about the mouth is perfectly healthy.

The restoration of the function of the divided branches of the portio dura has been so perfect that the eyelids of the right side can be as well closed as those of the left; and it would be difficult to trace any difference in the expression on either side of the face. He has raised a large pair of whiskers, which entirely conceal the cicatrix. Much to my surprise, he told me that he could masticate any kind of food almost as well as before the operation.

I may now allude to the most interesting points in the history of this case:—

1. The extirpation of the jaw without ligature either of the common or external carotid.
2. The restoration of the function of the divided branches of the portio dura.
3. The removal of the masseter muscle, and the tracing of the cancerous deposit from its internal, to its gradual disappearance near its outer surface, thus showing the necessity of complete extirpation of all suspected parts.
4. The fact of the non-recurrence thus far of a disease, which, as viewed both by the naked eye and through the microscope, was undoubtedly of a cancerous character.

ART. II.—*On Metastatic After-Pains.* By E. NŒGGERATH., M.D., of New York.

THOUGH the obstetrical art and science occupy a prominent position among the different branches of medicine, there are very many incidents of a physiological, or a pathological, character, which have not been sufficiently explained up to the present time. The veil is yet to be lifted from most of the nervous disturbances observed during or after confinement. How little do we know, for instance, of a phenomenon called metastatic pains? The only authors who have mentioned this dystocia in their writings, are Herder, Schwartmuller, Wigaud, Stein, jun, Pilger, Loewenhardt, Mende, Dubois, Burns, Churchill, and Power. But the greatest num-

ber of obstetrical authors either do not refer to the subject at all, or deny the existence of such pains. We can only account for this from their being rarely met with. Still, those few writers who have discussed the subject show such a coincidence in the irrespective observations, that an attentive and impartial reader can not but believe that, in some instances, the genuine uterine activity during a labor gives away, and neuralgic pains or muscular contractions in another department set in. The most commonly affected regions are those which lie nearest the uterus, viz., the bladder, the anus, the intestinal tube, the stomach, etc.; and less frequently the extremities, the thorax, and the larynx have been reported as being affected.

The honor of having thrown the greatest light upon this curious phenomenon, is due to Dr. John Power, of London, who has written a thesis on metastatic labor in which he gives a full description of the disease and its cure, illustrated by over thirty cases.

In order to give a correct idea of the so-called metastatic pains, we shall present some observations which will prove more instructive than pages of theoretical expositions.

Among the different cases noted by Dr. Power, we find in Case 8 a marked instance of uterine metastasis upon the bladder:—Mrs. P., at the beginning of the labor, had genuine uterine contractions, which dilated the os uteri with sufficient rapidity, when we remarked that the pains became suddenly more distressing, though they had no longer their former influence upon the mouth of the uterus. Placing our hand upon the fundus uteri during a pain, we could not perceive any contractions at all but the woman complained of a very painful sensation just above the symphysis pubis, which ceased after some time, and came back in regular intervals. Mrs. P. had not evacuated her bladder for a considerable time and was prevented from doing so by the pressure of the head against the symphysis pubis. We considered this a case of metastatic pains in the bladder, produced by an irritation of this organ, arising from its being overloaded with urine, and the vain attempts to empty itself. We, therefore, introduced the catheter, and drew off a considerable quantity of water. This being performed, regular uterine contractions set in, and labor was soon ended in the most satisfactory manner. Prof. Stein gives, among other very interesting cases, one of metastasis to a part of the nervous system, which is quite removed from

the sphere of the uterine nerves. He says, "In this case a great quantity of liquor amnii was present, and, in consequence, the pains were very irregular. Suddenly, all uterine action ceased, and the woman was taken with a violent facial neuralgia. This affection lasted for one hour, when it gave entirely away, and another succession of labor pains set in; these, after some time, ceased, and the prosopalgia commenced, which was exchanged once more for activity of the womb, and so on by turns. At length the membranes were ruptured; after which, regular uterine action began and continued till the child was born.

Another very singular case was observed by the same author. A woman, when at the full term of her confinement, was taken with general convulsions, which ceased suddenly, but continued in the musculus orbicularis of both eyes, so that she could not open them for two days. Now the womb began its work, and with the first contraction her sight was reëstablished.

Many of the authors above mentioned, and especially Pilger, observed that, during a confinement, the pains gave away, and the patient was suddenly taken with an alarming dyspnœa, which ceased as soon as another contraction of the uterus commenced. Others witnessed that the abdominal muscles were the seat of metastatic labor. (Power, Herder.)

This kind of dystocia is of rare occurrence. But there is another very severe and most tormenting affection occurring after confinement, which we find mentioned in almost every treatise on midwifery, yet vainly seek for an explanation of the fact. I mean those very painful affections of the lower extremities, which commence a few hours after the child is born, and last sometimes for two or even eight days. The authors who treat of the said affection, call it "*the crural neuralgia of women in childbed*," and believe it to be the result of pressure of the fœtal head, or the forceps, or of an inflammatory exudation upon the crural nerves as they pass through the pelvis. I will not deny that this is the case in a few instances. But when these pains follow after an *easy* confinement, where neither a large-sized head, or a forceps operation, or an inflammation of the bowels can be referred to as explaining this symptom, then we have to seek for another explanation.

As I have been so fortunate as to have had several women under my own observation who exhibited this phenomenon, I shall give a minute description of two of these cases, which

are so striking that, after perusing them, no one will doubt that, hereafter, we have to designate what has been called crural neuralgia of childbed, as *metastatic after-pains.*

Case 1.—Mrs. F., æt. 34 years; born in Bonn, Rheinish Prussia; is of a rather small stature, and of a very excitable disposition. Five years ago she was confined for the first time, and everything went on very favorably during and after labor. Two years later she was delivered of another child, the birth of which was followed by a violent pain in the right leg, which lasted, with but short intermissions, for *five days.* On the 31st October, 1856, I was called to this woman who had been the night before confined, I found her in a deplorable condition, continually groaning, and occasionally crying aloud with pain, so that she was unable to give a coherent account of her symptoms. From the midwife who had attended her, I learned the following peculiarities of her confinement:—The labor began at eight o'clock last night, and was completed at half-past ten o'clock P.M. with the birth of a living full-grown child. The pains were regular and very strong. When the placenta was removed, the midwife did not dare to leave the woman, because she felt the womb to be exceedingly soft and uncommonly large; she expected that a hæmorrhage would be the consequence of this uterine relaxation, an opinion which was not confirmed by the ensuing events.

This morning, at about seven o'clock, the right thigh was suddenly seized with a pain, which soon increased to such violence, nay, fury, that the patient was afraid to move the leg the slightest degree from its position. The lower part of the thigh was the seat of the greatest pain, and especially its external surface extending over the dorsum pedis. The least pressure could not be endured. After the child was born, the woman had not the slightest perception of after-pains. She felt as if her *abdomen was empty*, or *rather not existing.* The uterus was enormously distended, its limit or outlines being scarcely distinguishable, its texture remarkably soft and relaxed. Considering this to be a case of metastatic after-pains, I thought the chief indication would be to bring on uterine activity, after which the pain in the thigh should disappear. The result of my treatment proved that I was right.

Shortly after ten o'clock I gave her a large tea-spoonful of powdered ergot of rye (secale cornutum). Ten minutes past, the patient remarked a discharge of blood from the vagina,

the first after her delivery; a quarter of an hour after the administration of this remedy, the woman became more quiet, she ceased to cry, except occasionally, and a painful expression was noticed in her features. Twenty minutes past ten o'clock she said that the former kind of pain had left her thigh and yielded to a very bearable sensation of smarting. At half-past ten o'clock she took the same quantity of ergot, and fifteen minutes later I had the pleasure to see that the patient moved to lay upon her right side; she could bend her knee and move her leg up and down; she even told me now that she *had not the least pain.* When I left her (before eleven o'clock) I could ascertain that the uterus was well contracted, lessened in size, and considerably harder than when I made the first examination. The woman had no relapse afterwards.

Case 2.—Mrs. T., a small, lean woman, æt. 31 years; born in Bonn, Rheinish Prussia; was confined five years ago for the first time. After that, she had one other good safe delivery and continued to be healthy in every respect. The labor in, which I attended her began at seven o'clock, A. M., on the 27th April, 1855. The very first pains were not strong, and degenerated by degrees into real atonic pain. At five o'clock, P.M., the membranes ruptured, and a large quantity of water escaped; the fundus uteri, at that time unusually distended, with very thick walls, was located in left side of the abdomen. By internal examination, I found the os uteri in the right cavity of the pelvis, dilated to the size of about three inches. The head of the child stood in the entrance of the pelvis, the triangular fontanel towards the left side, and turned somewhat behind; the temperature and secretion of the vagina very scarce; the pains slow without a real acme, interrupted by long and irregular intervals. I prescribed a solution of borax in an infusion of flor. sambuc., hot bottles near the genitals, moulding of the uterus, and I also directed the woman to be turned on her right side. After this the pains grew stronger, so that, at about nine o'clock, P.M., a medium-size living child was born. After I had removed the placenta, the uterus was sufficiently well contracted. When I left the woman she felt quite well. The following morning I was called to see her; found her crying out with a violent pain in the lower part of her right thigh. Upon my inquiries, I was answered that, at about half-past eleven o'clock last night, she was suddenly awakened by a kind of straining sensation in her leg, which soon increased to such a distressing painfulness that she was

unable to sleep for the rest of the night. Listening to her exclamations, I could easily observe how the painful affection came on slowly, increased gradually, and sunk to a perfect intermission. *She did not feel anything like after-pains*, though she knew this sensation very well from her previous confinements. At eight o'clock in the morning, when she began to nurse her child, the pains, which sometimes affected the left thigh, had somewhat lessened. I could detect no pathological symptom in the affected leg, occasionally I remarked a starting of some muscle, very much like a subsultus tendinum.

But the uterus proved to be very different in form and size from what it was last night, when I left the woman. This organ was much larger, of a more spherical conformation, its texture extremely tender and soft to the touch, so that at first it was scarcely possible to discover its figure through the abdominal walls, though they were thin and collapsed. Its vitality was so much lowered, that hard pressure upon it, which caused much pain last night, was now scarcely perceived. Ordered—

℞ Secal. cornut., recent. pulverat. ʒib
Infus. C. aqu. fervid. ad cal. ʒjii
Add syrup. zingib. ʒi.
One table-spoonful to be taken every half hour.

When I saw her again, at about six o'clock, P.M., she told me that soon after taking the medicine she felt much relieved, and that at four o'clock, P.M., the pains in her legs had ceased entirely, adding, that she felt them at present more in her back and stomach.

In both these cases especially in the first one, it is obvious how important it was to have a right idea of the disease in order to adopt the proper treatment. While this patient, on a former occasion, suffered for *five days* from her so-called neuralgia, we were able to remove it entirely *in one hour and a half*.

The latter case is very interesting in regard to the course and diagnosis of the disease. The woman exhibited already symptoms of atonia uteri during her actual labor, and this state continued after confinement. The uterus was in a perfect state of rest as regards both its sensitive and motive power. A part of the nervous activity, properly belonging to the uterine system, became free, and consequently was added to the natural amount of nervous tension in some other part; and, in this instance, the nerves going to the right thigh

had to bear its influence. Every one knows that irritation of the mammæ reflects upon the uterus as a stimulus, i. e. brings its nerves into greater activity. Therefore, nursing the child was to rouse the uterine nerves from their inactivity, and this ought to diminish the pains in the leg. This fact was observed in our case as the woman told us herself without even being asked about it.

In explanation of these singular pathological occurrences, we must bear in mind, that there is always present a limited amount of nervous power in the central organs. Therefore, if one part of the body receives a nervous impulse in excess, other organs must be more or less deprived of it; or, when there is prepared in the nervous centers a certain amount of material for the purpose of setting one department of nerves into action, and this department being in itself not properly disposed to receive it, then, another portion of the nerves must attract this amount, and show a greater activity. The same result must happen, when some other part of the system is in such an unnatural condition, that it attracts more nervous force from the centers than is due to it. In this case another organ must lose part of its activity.

These principles applied to the uterine system, we are able to explain the pathology of metastatic pains. When labor begins, the sympathic nerves and the spinal cord secondarily are called to a physiological energy, which is seen in no other instance of life. Their activity is provoked by the uterus, and in ordinary circumstances directed to the uterus. But in order to perform their duties properly the womb must be sufficiently disposed to attract the nervous fluid to its own sphere. In case of its being in a state of weakness, other organs receive the effect of the overloaded centers, and thus exhibit the phenomenon of metastatic pains. Therefore this complaint is most commonly observed in connection with atonic labor-pains. But if some part or other of the system was previously, or during parturition, in an unhealthy condition, it would be liable to attract to itself the nervous energy originally due to the uterus, even if the latter was in a state of health. Therefore, we see that, in very many instances of metastasis, the affected organs stood under some morbid influence before or during confinement.

I lately was confirmed in these views of metastasis by a case which I observed in this city in September last. Before relating the case it will be necessary to make some explanatory remarks. It can not be doubted that, in the central

organs of a healthy person, there is always sufficient electricity to mantain a medium state of tension in all the nervous cords, both motive and sensitive, going to the different parts of the body. This amount of central irritation is present nearly to its full extent even if one of the more important organs is in a temporary state of greater physiological activity, such as the brain in thinking, the stomach in digesting, the uterus in delivery, etc., etc., but if the above views of disturbances in the nervous equilibrium are correct, it must happen sometimes, when one of these organs, being engaged in physiological action, is in a state of excessive irritability during its work, that the amount of specific central energy, is not sufficient to answer the requirements of the stimulated organ and then another part of the system will be partially deprived of its physiological activity.

This was the case in the following instance. In September last, I assisted a lady of New York in her confinement, which went on so rapidly that labor was nearly completed when I arrived, though I obeyed the call immediately; all I had to do, was to remove the after-birth. This was her sixth confinement, and on nearly all former occasions she had to suffer from most distressing after-pains, she asked my advice in order to be relieved from that complaint. At about two o'clock, P.M., I was called again to see her. She complained especially about her right leg, so that at first I anticipated having another case of metastatic after-pains. In this I was deceived after a closer examination. It was just the reverse. For she suffered, at the same time, from unusually strong after-pains. The uterus was small, contracted, and hard as a stone. In the right leg she had the sensation "*as if it did not belong to herself;*" it felt benumbed and heavy; she had not the power of moving it. When I touched it she was unable to tell at what place exactly this was done. In short, it exhibited appearances which, in all, were most akin to paralysis. I prescribed a few doses of laudanum and ipecac, which relieved her greatly, and as the after-pains gradually subsided, the limb returned to its natural sensation and mobility.

This case related by itself would be a perfect puzzle to everybody. It can only be understood by comparing it with the above narrated cases of metastatic after-pains, and thus it becomes a key to the right explanation of this intensely interesting phenomenon.

179 W. Twenty-second street.

ART. III.—*A Critical Examination of the Evidences of the Osseous Union of Intra-Capsular Fractures of the Cervix Femoris.*

By JOHN JOHNSON, M.D., House Surgeon to Bellevue Hospital.

UNTIL within a few years, much diversity of opinion has existed upon this question. Lately, the preponderance of opinion has inclined strongly toward the affirmative. In the conviction, however, that it is an open question, we desire to submit to the profession the results of our investigation of the subject.

The first question which presents itself is—Can intra-capsular fractures be diagnosed with certainty *during the life* of the patient?

Fractures of the cervix femoris present themselves in three varieties:—1. Those entirely within the capsular ligament. 2. Those entirely without the capsular ligament. 3. Those partly within and partly without the capsular ligament.

The subjective symptoms are:—1. Pain. 2. Loss of voluntary motion. The objective symptoms are:—1. Swelling and deformity at the hip. 2. Approximation of the trochanter major to the anterior superior spinous process of the ilium. 3. Shortening. 4. Crepitus. 5. Eversion. 6. Formation of callus. 7. The direction in which the force is applied.

It is hardly necessary to refer to the first of the subjective symptoms as a means of diagnosis, for in all cases of fracture of the cervix femoris, there is more or less injury to and laceration of the soft parts—and, consequently, pain.

It is generally admitted that in all these cases the patient feels pain in the whole vicinity of the joint.

2. Loss of voluntary motion exists in all fractures of the cervix femoris where there is displacement, whether the fracture is within or without the capsule. The only exception is in cases of impacted fractures, where the shaft of the bone is driven into the cancellated portion of the head, in which cases the power of voluntary motion may still remain.

Of the objective signs, the amount of shortening *immediately* attendant on the injury has been insisted upon as the most conclusive in the diagnosis of intra from extra-capsular fractures.

Those that insist that they can distinguish between these kinds of fractures during the life of the patient, maintain that the amount of immediate shortening in the cases of

extra-capsular fractures is so much greater than in intra-capsular fractures, as to furnish conclusive evidence as to which class the fracture belongs. First, they maintain that immediate shortening is greater in extra-capsular fractures, from physiological principles; second, as a matter of experience. The physiological reason is, that the cervix femoris is surrounded by a capsular ligament, which, in health, is extremely powerful, and closely embraces the head and cervix; thereby preventing the shaft from slipping so far in intra as in extra-capsular fractures. If the capsule was in every case uninjured, this would be satisfactory; for it must be admitted that the capsular ligament is very strong, and acts powerfully in retaining the fractured parts in their places. If, however, the capsular ligament is torn, the shaft of the bone may slip through the rent, and thus afford an amount of shortening as great as in cases of fractures entirely without the capsule. All authorities admit that laceration of the capsule may, and often does, occur. Again, if the head of the femur is comminuted, shortening to an indefinite extent may occur. The head of the femur may be comminuted, as this fracture usually occurs in persons past the prime of life, when all the bones are fragile. Further, we can not diagnosticate oblique intra-capsular from transverse extra-capsular fractures, for it is quite impossible to feel the direction of the fracture, imbedded as it is. Again, the shock is sometimes so great as to cause a paralysis of the muscles, and in these cases the shortening does not immediately occur, even though the fracture be extra-capsular. The fracture may also be impacted, and yet extra-capsular. In these cases there will not be as much immediate shortening, as is claimed for all cases of extra-capsular fractures.

From these considerations, we conclude that unless the condition of the capsule, or the precise nature of the fracture can be determined, the amount of shortening is not a diagnostic mark to be relied on.

2. *Opinion of Authorities.*—It is surprising to find the amount of difference among authorities upon this point. The most eminent surgeons, not of this country alone, but English, Irish, and French, hold directly opposite opinions.

Sir Astley Cooper says, that intra-capsular fractures gives the greatest amount of shortening. Mr. Stanley *is opposed to him.* He states that extra-capsular fractures have the greatest shortening. Amesbury claims the greatest shortening for intra—and Earle, for extra-capsular fractures. Robert

Wm. Smith, of Dublin, claims the greatest shortening for extra-capsular; while Chassaignac, and Vidal, (de Cassis) are opposed to Desault, Boyer, Dupuytren, and Cloquet.

How can these contradictory opinions be reconciled or harmonized? Only by considering that, in some instances, the intra-capsular fractures have given the greatest amount of shortening, and in other instances the extra-capsular fractures give the greatest shortening; and that the surgeons who have seen the cases of the first class, hold the opinion that extra-capsular shortening is the greatest; while those who have seen cases of the second class, hold the opinion that intra-capsular shortening is the greatest; accepting this, as the true explanation, and there is none other we can accept without charging either the one side or the other with ignorance or with intention to mislead, (neither of which charges we are willing to make,) we are compelled to conclude that this symptom does not present itself with sufficient regularity to be of weight as a diagnostic sign. This is the opinion entertained by the French Surgeon, M. Rodet, who says:—"Cette opposition formelle entre les opinions de ces grands chirurgiens vient sans doute de ce qu'il n'y a rien de constant dans le degrè du raccourcissement, qui accompagne de ces deux espicès des fractures." With this difficulty, both in theory and in experience, we are compelled to exclude the amount of shortening as diagnostic of the character of the fracture.

Crepitus.—This will depend on two conditions: first, whether there is anything interposed between the ends of the bone, as muscle, capsular ligament, etc., to prevent the rubbing of the ends together; second, whether there is impaction. If there is no impaction, and nothing interposed between the ends of the bones, there is no reason why crepitus should not occur, whether the fracture is intra or extra-capsular.

Eversion.—This will depend, if the fracture is intra-capsular, much on the amount of laceration of the capsule. If the capsule is lacerated, there is no reason why the foot may not be everted as fully as in cases of extra-capsular fractures. Until it is determined whether there is, or is not, laceration of the capsule, it is certain that we can not make the amount of eversion a diagnostic sign.

Again, if the fracture is extra-capsular and impacted, there may be as little eversion as in cases of intra-capsular fracture, where the capsule is not lacerated. So, whether we

have intra-capsular fracture with laceration of the capsule, or extra-capsular fracture without laceration; whether we have intra-capsular fracture without laceration, or extra-capsular fracture with impaction, we can not form a diagnosis from the eversion.

Callus.—It has been thought that the existence of callus furnished a means of diagnosis, because there would be no callus formed around the ends of the bone, if the fracture was intra-capsular. This is true; there is no callus formed *within* the capsule, but there *is* a *formation* of callus in cases of intra-capsular fracture. The callus is formed precisely where the law that governs plastic exudations would teach us to look for it, viz.: *external* to the capsule, where there are tissues capable of effusing it. It is effused *external* to the capsule precisely *where* it is effused in cases of *extra*-capsular fracture. This fact is beautifully shown in the specimen of intra-capsular fracture, now in the possession of Dr. William H. Van Buren, of this city. A minute description of which will hereafter be given. The simple formation of callus, therefore, can not be considered a diagnostic sign of extra-capsular fracture, as it may be found in the same place in both kinds of fracture.

Approximation of the Trochanter Major to the Anterior Superior Spinous Process of the Ilium.—This can not be a diagnostic sign, for there will be approximation in *every* case of fracture of the cervix, and the degree of approximation will depend on the direction of the fracture; an oblique fracture giving us more approximation than a transverse; and this rule will hold true, whether it is an intra or extra-capsular fracture.

Swelling and Deformity at the Hip.—This will occur in both cases; the amount of deformity depending on the direction of the fracture.

M. Rodet having come to the conclusion, that none of thesa signs were diagnostic, rejected them; and maintained thet *the direction in which the force was applied* was the only diagnostic sign; and that the fracture will be intra or extra-capsular, oblique or transverse, according as the force has been received in a vertical, lateral, or transverse direction. Mr. Smith thus sums it up:

Force acting vertically,.....	Fracture will be	oblique, and intra-capsular.
antero-laterally,....		transverse, and intra-capsular.
postero-laterally,...		mixed.
transversely,.....		extra-capsular.

Thus, if the person fell upon the knees, we should have the first class, oblique and intra-capsular; and in regard to this argument, Mr. Smith, of Dublin, makes the following very just remarks: "With respect to Rodet's diagnostic sign, it will be admitted as a general principal, that the mode of application of the force and the direction in which it acts, will determine the situation and direction of the fracture; but I contend that it is seldom available in practice in determining the seat of a fracture of the neck of the femur with respect to the capsule, for it would be extremely difficult, if not impossible, in the generality of cases, to obtain from patients a description of the direction in which the force was applied, as accurate as would be necessary before we could avail ourselves of it as a means of diagnosis. It is not probable that a person of advanced age, who had just suffered so severe an injury as fracture of the neck of the thigh bone, would be able to inform us whether the shock was sustained by the external surface of the trochanter, or whether there was a deviation anteriorly or posteriorly from a directly lateral fall." (SMITH *on Fractures*, Page 21.) It might be quite impossible to determine the point of injury from an examination of the hip, as it may have been so protected by the clothes, that no ecchymosis occurred, or the contusion and ecchymosis may be so extensive as to lose all value as indications of the precise spot of the application of the force. Mr. Smith also gives an instance (page 21) in which, according to this rule, we should have an extra-capsular fracture, and in which dissection proved that the fracture was intra-capsular. So much for this diagnostic sign, beautiful in theory, but valueless in practice.

I have thus reviewed each of these symptoms of fracture. They are all extremely obscure, and the one upon which the greatest stress has been laid—*shortening*—must be excluded altogether. Taken separately, no one of them will enable us to form a diagnosis; taken collectively, there are so many different conclusions that may justly be deduced from them, that no positive diagnosis can be given between the two kinds of fracture *during the life of the patient.*

If this difficulty attends the diagnosis of the two extreme classes of extra and intra-capsular fractures, still greater difficulty must attend the diagnosis of the third class, which is a mixture of the other two, partly intra and partly extra-capsular; and when we come to diagnose this third class from the other two, it is impossible. As no accurate opinion

can be formed of the precise nature of the injury during the life of the patient, so no conclusion can be drawn as to the osseous or non-osseous union of fractures within the capsule from those patients who recover. This limits the decision of the question to the conclusions derived from an examination of post-mortem specimens.

Before entering on that question, it may not be improper to consider the probability of the osseous union of intra-capsular fractures, in the view of the anatomical and pathological conditions existing. The first point is the effect of the injury on the capsule.

Violence sufficient to fracture the cervix femoris, must be sufficient to cause injury to the synovial membrane of the capsule. The result of that injury will be inflammation of the synovial membrane, and the result of that inflammation will be the effusion of a superabundance of synovial fluid; or, if the inflammation continues long enough, of plastic lymph. Now, when the synovial fluid is poured out, there must be distention of the capsule by it, and if this occurs, then there must be separation of the ends of the bone, for they are attached to the capsule. If the ends of the bone are separated, we can not have osseous union; for even the most ardent advocate of osseous union (R. W. Smith, of Dublin) claims it only in cases of impacted fractures. Now, as long as the inflammatory action continues, so long shall we have synovitis, effusion, distention of the capsule, and consequent separation of the ends of the bone. If the inflammatory action ceases, we shall not have union by bone, for the first thing nature does is to get up an inflammatory action in and around the ends of the bone, whereby plastic exudation is poured out. That we do have synovitis in all cases of intra-capsular fractures is evident from the autopsies, for the capsule is always reported thickened. This thickening is evidently due to inflammation of the synovial membrane, so long continued that not merely synovial fluid had been effused, but plastic lymph, and that lymph had become organized.

2. There is no sufficient means left, after the fracture, to nourish the head of the bone, and furnish material for ossific union. The only possible means of nourishing the head of the bone, are four in number:—1. From the branches of the nutrient artery of the femur. 2. From the periosteum. 3. From the synovial membrane. 4. From the vessels of the ligamentum teres:—1. If the bone

is fractured, the probability is that the branches of the nutrient artery are torn from the head of the femur. 2. The periosteum will probably be torn, because it is the most delicate upon the head and cervix. 3. The synovial membrane would produce synovial fluid and lymph, but not ossific matter. 4. The vessels of the ligamentum teres are so small as to be imperceptible to the unassisted eye, and it is not possible that these should be able to carry a sufficient amount of nutrition to support the bone, and afford ossific union. Grant, for the sake of argument, that the vessels of the ligamentum teres were capable of performing this function. If they did perform it, they would become much enlarged from this increased action, in the same manner that the anastomotic vessels are enlarged in the case of a ligated artery; but in every one of these cases, of so-called osseous union, where the ligamentum teres has been spoken of, it has been described as *natural*. If it was natural, then its vessels could not have performed this increased function. If it was not natural, then the notes have not been *faithfully reported*.

3. Another difficulty in the way of osseous union is to be found in the difficulty of maintaining the ends of the bone in coaptation. Nature's splint does not work here; there is no provisional callus around the ends of the bone to maintain them in apposition. There is effusion into the capsule, so that no external splint can be applied which will be able to control the upper end of the fractured bone; for, if it is firmly applied, the pressure will increase the synovitis; if it is not firmly applied, it is of no use.

We conclude, therefore, that bony union of the intra-capsular fracture does not occur, for the following reasons:

1. The separation of the ends of the bone by the synovitis, which synovitis continues so long as there is inflammatory action in the part. 2. The lack of tissues capable of producing ossific matter. 3. The lack of means of nourishment. 4. The impossibility of retaining the bone in coaptation.

Before leaving this part of the argument, another point must be briefly considered, because some writers lay great stress upon it. It is the "Argument from Analogy;" or, the bony union of fractures of bones within synovial membranes, as in fractures of the patella and olecranon. This argument seems to many to be conclusive, and it is urged, as such, by men of eminence in their profession. A slight

examination will, however, show points of difference sufficient to destroy all analogy and all arguments derived from analogy. 1. The patella is not a part of the skeleton. It is a sesamoid bone developed in the tendon of the quadriceps extensor muscle, to afford this muscle greater leverage. 2. It is a flat bone, while the head of the femur is spheroidal. 3. It is more fully nourished than the head of the femur. The head of the femur, in cases of fracture, derives its nourishment entirely through the ligamentum teres, a small rounded tendon; while the flat, strong band of tendinous fibres, composing the ligamentum patella, passes over the entire length of the patella. This ligament is so large that it would be more fitly denominated the tendon of the quadriceps extensor muscle. The whole anterior surface is covered with synovial membrane, and there is a fold of synovial membrane reflected behind the patella, termed the ligamentum mucosum. The knee joint is the largest joint in the whole body, and the patella being a flat bone, there is a greater amount of surface in proportion to the size of the bone to receive nourishment from the synovial membrane and fluid, than is the case in the head of the femur. Again, the knee joint is more abundantly nourished than the acetabulum. We find five arteries of considerable size passing to the joint—so large as to be described by anatomists. They are the two upper articular arteries, the two lower articular arteries, and the middle articular artery. Of these, the middle branch or external articular artery, goes directly to the patella; and the lower internal articular artery sends branches directly to that bone. These five arteries form a net-work of vessels at the front and sides of the joint, so that the patella has an abundant supply of blood in cases of fracture—unless these vessels are destroyed. Most fractures of the patella occur from a sudden strain, rather than from direct violence, so that in the majority of cases there will be abundant nourishment to the fractured patella.

The olecranon has scarcely more analogy with the cervix femoris than the patella. Instead of being attached by a small ligament, like the ligamentum teres, there is the powerful ligament of the triceps extensor muscle—a tendon far more capable of supporting a bone as large as the head of the femur than the ligamentum teres. But it has no such work to perform. The olecranon has other and ampler sources of nourishment, being covered on one side by cartilage, and on the other by the synovial membrane of the joint. The synovial mem-

brane of the elbow joint is far larger, in proportion to the size of the olecranon, than is that of the hip joint to the size of the head of the femur. We regard it as established, therefore, that the prospects of union are far more favorable in cases of fracture of the patella and olecranon, than in cases of fracture of the cervix femoris. But what results are obtained in cases of fracture of the patella and olecranon? Almost invariably union by ligament. The union by bone is the exception, and so rare an exception that the specimens are preserved in museums, as curiosities. These reasons place the improbability of union beyond a reasonable doubt.

Again, the non-union of cases, where everything was favorable, affords a strong *probability* that union does not occur. I will quote two of these cases for illustration.

I am indebted to Dr. James R. Wood, of this city, for the following history, which he has kindly furnished me, of a case which occurred in his own practice, and I take great pleasure in acknowledging the favors I have received from him, both in the privileges of his museum and also in his library, and the facilities he has afforded me in the investigation of this subject:

Case 1.—*History.*—M. J., a young lady, æt. 16 years; of vigorous constitution; perfectly free from any constitutional taint either of scrofula, syphilis, or cancer; was caught between the wheels of two carriages, the one stationary, the other in motion. The blow was received directly on the trochanter major of the right side. The symptoms which presented themselves showed conclusively that there was a fracture. There was shortening, loss of voluntary motion, and eversion; by placing the finger on the trochanter major, and the thumb in the groin, a well-marked crepitus could be felt on extension and rotation being made. There was no laceration or other complication of the injury. She was placed on Amesbury's splint, with side splints accurately adjusted, and every precaution taken to ensure a perfect union. The limb was kept on this splint without being disturbed for six weeks. At the end of that time, it was taken from the splint, and examined with care. The signs of fracture still remained; the limb was replaced on the splint, and the dressings as before; everything was attended to in the general management of the case which the doctor thought would be conducive to perfect union. The patient was kept for three weeks longer on the splint, which was then removed. It was found that there was no union. Patient

lived for three years, and was so lame that she was always obliged to use a crutch in walking. At the expiration of three years she died of an acute disease.

Post-Mortem Examination.—On examination of the cervix femoris, it was found that there had been a transverse fracture of the bone just at the junction of the head and neck. The head of the bone was still attached to the acetabulum by the ligamentum teres. The process of absorption had been going on, and the head of the bone had already been absorbed below the level of the acetabulum, and what remained was soft and spongy, easily broken with the handle of the scalpel. The neck of the bone was rounded off, and covered with a fibrous deposit. This was not a case of diastasis, as has been suggested by an eminent surgeon, who judged simply from the age of the patient. She was full sixteen when the accident happened, and over nineteen when she died.

Remarks.—This case makes a very strong argument against union by bone. Here, every circumstance was favorable. The age of the patient, her constitution, the immediate diagnosis of a fracture, and the subsequent treatment, were favorable to osseous union, if it were possible that such union could take place under *any* circumstances where the fracture was within the capsule. She was not an old patient, past the prime of life, in whom the vital energies were nearly exhausted, as are most of the patients in whom osseous union is claimed to have taken place, but at the most vigorous period of life, just after ripening womanhood has given full strength and power to all her functions; a period when nature is prodigal in her endeavors to aid, and when her recuperative powers are the strongest. She was not broken down by constitutional disease, produced either by her own or her parents' errors, but in perfect health, free from *all* constitutional taint, either of scrofula, syphilis, or cancer.

There was no mistake in the diagnosis of the case, as in one of Mr. Smith's so-called cases of osseous union. Here the diagnosis was made at once, and made correctly. The treatment, also, was adapted to the nature of the fracture. The patient was at home, among her friends, where every wish of her attending surgeon could be carried out. And to those acquainted with the surgeon in attendance, his name alone would be a guarantee that everything requisite in the treatment was attended to, even had no mention been made of the dressings in the case.

Those dressings were Amesbury's splint, with side splints;

a form of dressing insuring perfect rest of the parts. These dressings were kept on for six weeks undisturbed, then the limb was carefully examined, dressings replaced, and continued for three weeks longer; everything, meanwhile, being attended to which the surgeon in attendance thought conducive to union. Under these most favorable circumstances for osseous union, this result was not obtained; the patient remained a cripple for life; the process of absorption of the fractured end of the bone went on, and at the time of her death the parts were found as already described. If this was the only case of the kind which could be adduced, then it might be regarded as a rare exception; but cases of the kind can be easily multiplied, quite as conclusive as that just mentioned.

There is in the museum of Prof. William H. Van Buren, of the University Medical College, a specimen precisely in point. I am under obligations to Prof. Van Buren for the history of the case, which he furnished me, and also for the privilege of fully examining the specimen.

Case 2.—*History.*—The patient was a man, æt. 25 years; robust; in good health. He was dancing at his sister's wedding; while cutting a pidgeon wing, he struck the foot upon which he was resting from under him, and fell, striking directly upon the trochanter major. He was unable to rise; a carriage was called and he was taken directly to the New York Hospital. There he came under the charge of Dr. J. Kearney Rodgers. A fracture was immediately diagnosticated, and for a few days he was kept on the double inclined plane. The straight splint was then used, and the dressings kept up for six weeks, at the end of that time they were taken down and the limb examined: there was no union. The limb was continued in the straight splints for three weeks longer, and again examined—there was still no union. The patient was again replaced in the straight splint for two weeks longer, but no union occurred. At the end of three months from his admission, he was discharged; he was in good health, but so lame that he was obliged to use two crutches in walking. After his discharge, the patient became very intemperate; and, in the course of a few weeks, he applied for admission to Bellevue Hospital. He was much debilitated, and had an exhausting diarrhœa. Shortly after his admission, an immense abscess formed over the joint, which discharged profusely. The man died shortly after, from exhaustion, and the specimen came into Dr. Van Buren's hands, the patient having been in his service. Dr. Van

Buren was aware of the patient's previous history, the treatment, etc., at the New York Hospital, and a careful examination was made.

Post-Mortem Examination.—The capsular ligament was destroyed entirely by the suppurative process; there was a formation of callus upon the trochanter major; the ligamentum teres was entirely absorbed; the head of the bone was spongy, as if worm eaten; the direction of the fracture was oblique, commencing just at the articulating surface of the head and ending just within the capsule; the upper end of the shaft of the bone showed this same appearance that was marked in the head. These points are beautifully shown in the specimen at the present time. The opinion of Charles E. Isaacs, M.D., the able Demonstrator of Anatomy of the University Medical College, is, that this fracture was entirely within the capsule.

Remarks.—Here was a strong, healthy man, in the prime of life, with no constitutional taint, with an immediate diagnosis of his fracture, and immediate and proper treatment, and that treatment continued for three months, under the supervision of Dr. J. Kearney Rodgers, with all the advantages of the New York Hospital, where more fractures are treated than in any other institution in this country; everything being attended to that would facilitate union. The patient's general health was carefully attended to as is shown by his condition at the time of his discharge. Notwithstanding all these advantageous conditions, there was no union. If health, constitution, youth, and good treatment give no such results, what are we to hope for from age and debility?

We shall now proceed to analyze the specimens which have been brought forward to prove the union of intra-capsular fracture of the cervix femoris. If there is a single specimen, about which there could be no doubt of there having been a fracture entirely intra-capsular, and of that fracture uniting by osseous union, that specimen would settle the possibility of osseous union in cases of intra-capsular fractures of the cervix femoris. But is there a single specimen of this kind in existence? Robert W. Smith, of Dublin, in his excellent work on *Fractures*, claims to have collected facts which settle this question. He has searched the museums of England, Ireland, and France, for their choice specimens, and has been able to collect only seven which have any pre tense of this kind. Prof. Willard Parker, of this city, has

one; Philadelphia claims to have two; and Prof. R. D. Mussey, of Cincinnati, has three specimens, which he alleges are perfect illustrations of the osseous union of intra-capsular fractures of the cervix femoris.

The greatest number collected are in the work of Robert W. Smith, of Dublin, on *Fractures;* they are seven in number. The first of these cases is that of Mr. Langstaff's, which is the strongest case; the notes of this case, both as published in the *Medico-Chirurgical Transactions*, vol. 13, page 491, No. 242, and in Mr. Smith's work on *Fractures*, page 57, are extremely meagre. Mr. Smith's report is as follows (page 57):—"In this case, the patient was a female, æt. 50 years, when the fracture happened. She was confined to her bed for nearly twelve months after the occurrence of the accident, and during the remainder of her life, a period of ten years, walked with crutches. On dissection, it was found that the principal part of the neck of the bone was absorbed; the head and remaining portion of the neck were united, principally by bone, and partly by a cartilaginous substance. On making a section of the bone, it was evident that there had been a fracture of the neck within the capsular ligament, and that union had taken place by osseous and cartilaginous media. With a view of ascertaining whether there was real osseous union, the bone was boiled many hours, which, by destroying all the animal matter, satisfactorily proved the extent and firmness of the osseous connection, and exhibited the spaces which had been occupied by cartilaginous matter."

No mention is made of the treatment adopted in the case. The only statement that can in any way be considered as bearing on this point, is that she was confined to her bed for twelve months. This was probably because she could not get up, for if Mr. Langstaff had required her to be kept in bed, as a part of the treatment, he would doubtless have mentioned it. He does not state whether any splints were used, or any other means adopted to keep the parts in coaptation. These are important particulars; for Mr. Smith says (page 64) it is by contact and rest, that we are to hope for bony consolidation.

Again, all the proof of there ever having been a fracture must be derived from the statement of Mr. Langstaff; for there is not a single symptom, nor a single fact mentioned, to lead to such a conclusion, except that the woman kept her bed for twelve months after the accident, and was afterwards lame for life. Nor does he give us any reason where-

by he came to this conclusion from the autopsy. There are no measurements given to show how far within the capsule the fracture was; or, how near to the capsule the fracture approached at its nearest point of approximation. In fine, the capsule itself is not preserved, or even the smallest portion of it, from which to furnish points of measurements. Nothing is given but the simple statement of Mr. Langstaff, that, "On making a section of the bone, it was evident that there had been a fracture of the neck within the capsular ligament, and that union had taken place by osseous and cartilaginous media." In all cases of controversy, the public have the right to know the reasons upon which an opinion is founded, especially if they are called upon to believe that opinion. In this particular case, it was of the utmost importance that, instead of mere assertion, a systematic statement of the case should have been given, with measurements from certain fixed points, and minute descriptions of the various abnormal peculiarities; that, from these measurements and descriptions, logical conclusions might have been drawn.

Mr. Langstaff makes the statement that the head of the bone was united to the shaft by bone, and that the neck was absorbed. The same objection exists to this which did to his first statement; he gives us none of the reasons whereby he came to the conclusion that this was the head of the bone which remained; he does not inform us whether the ligamentum teres was attached to it or not; he does not mention whether the vessels of the ligamentum teres were enlarged or not, as they would be had they sustained the head of the bone, and also furnished the osseous union existing. In fine, the notes are so carelessly taken, that he does not mention whether there was a ligamentum teres or not. There is no ligamentum teres represented in the engraving; it is presumed that the engraving is a fair representation of the specimen,—for it is presented for that purpose by Mr. Smith. As nothing is said of a ligamentum teres, and none is shown in the plate that represents the specimen, it is right to conclude there was no ligamentum teres. This was probably a case of the absorption of the head of the bone, from the results of the injury. This is rendered probable from analogy and from the facts in the case. Illustrations of this absorption of the head of the bone are abundant; we find them in this same article of Mr. Smith's, page 71, Case 6. (Esther Christie.) In that case we are told: "The upper fragment has been absorbed as far as the acetabulum, and the ligamentum teres was the sole remaining attachment of the bone."

Here the process of absorption of the fractured head of the bone is going on, the head of the bone is absorbed as far as the acetabulum, while the surface of the lower fragment is becoming "*covered with a fibrous deposit*, though still rough," to enable it to fulfill its new function. Case 7, page 72 (Mary Lamb), gives the same process of absorption going on. In this case, the patient died twelve months after the injury, yet the head of the bone is absorbed as far as the acetabulum, and fibrous structure formed, all of which had been accomplished in the space of twelve months. If, in this old woman, eighty years of age, absorption had gone on as rapidly as here stated, is it improbable that the whole head of the bone should have been absorbed in the case of Mr. Langstaff, when the patient lived, not merely twelve months after the injury, but nearly eleven years, and was only fifty years of age instead of eighty? If further illustrations of this absorption of the head of the bone were desired they could easily be multiplied. The case of Dr. Wm. H. Van Buren's is in point; in that the ligamentum teres was absorbed besides the process in the head of the bone. The case of the girl M. J., under Dr. Wood's charge, is another case in point. There is still another specimen in the museum of Dr. James R. Wood, that illustrates this point; it was taken from a woman fifty-four years of age; all the usual signs of fracture were fully made out; the limb was immediately placed on a double inclined plane, and retained so for nearly two months; the woman had no control over the motions of the limb, she was unable to walk without a crutch, and when she died, two years after the occurrence of the injury, the specimen came into Dr. Wood's possession. At his clinical lecture at Bellevue Hospital, Saturday, January 3, Dr. Wood exhibited the specimen to the students. The patient, he stated, died of pneumonia two years after the injury. The autopsy exhibited the fracture entirely within the capsule; on cutting into the thickened capsule, the head of the bone was *found lying loose in the cavity;* the ligamentum teres was *entirely absorbed;* the head of the bone had become exceedingly light and soft, easily broken up with the handle of a scalpel, the neck of the bone was becoming rounded off to fulfill its new function, and the neck was becoming covered with fibrous matter. These cases demonstrate conclusively the fact that, in fractures of the cervix femoris within the capsule, the head is often undergoing the process of absorption, and it is not unreasonable to conclude that, in this patient of Mr. Langstaff, where she

lived for so long a time after the injury, this process was completed.

In the case of Mr. Langstaff's, the patient was confined to her bed for twelve months, and lived ten years, during which she was lame; if the head of the bone remained, as is claimed, and the union was by bone, if the ligamentum teres remained, as it must have done to have produced this bony union, then the patient should have had the use of the limb; but, on the contrary, she was lame for life—so lame that she had to walk with crutches, though she lived for a period of nearly eleven years after the injury; a circumstance easily understood, if this process of absorption of the head of the bone was going on during this time.

The next case adduced by Mr. Smith to support this view, is that of Dr. Brulatour, page 58 of Mr. Smith's work; also, vol. 13, page 512, *Med. Chirurg. Transactions.*

Dr. James, an English physician, residing at Bordeaux, æt. 47 years, was thrown from his horse, on March 29, 1826. He fell directly on the great trochanter, but got up and walked a step or two, which occasioned such acute pain in the hip joint that he instantly fell again; on examination immediately after the accident, Dr. Brulatour observed the principal signs of fracture of the neck of the femur, such as shortening of the affected limb, eversion of the foot, and a feeling of crepitation in the joint when counter extension was made; extension of the limb was kept up for two months, so as to preserve it of its natural length. Three months after the receipt of the injury, Dr. James was able to walk with only the assistance of a cane, and subsequently recovered the full use of the limb. On the 20th of December, nine months after the accident, he was attacked with hæmatemesis, which proved fatal in two days. The post-mortem examination of the right hip joint showed the capsule a little thickened; the cotyloid cavity and inter-articular ligament in a natural state; the neck of the femur shortened; an irregular line surrounding the neck, denoting the direction of the fracture, and considerable bony deposit at the bottom of the head of the femur, and at the external and posterior part. A section of the head of the femur was made, in a line drawn from its center to the bottom of the great trochanter, so as perfectly to expose the callus. The line of union, indicated by the callus, was smooth and polished as ivory; the line of callus denoted also, that the bottom of the head of the femur had been broken off at its superior and posterior part.

If these notes prove anything, they prove too much; for it is stated that "an irregular line surrounding the neck, denoting the direction of the fracture, and considerable bony deposit at its external and posterior part." "The line of callus, denoted, also, that the bottom of the head of the femur had been broken at its superior and posterior part." If this statement is true, what must have been the nature of the injury? Evidently a comminuted fracture entirely within the capsule; for, the first line denoted that the head of the bone had been fractured off from the shaft of the bone, a second line indicated that the bottom and posterior part of the head had been fractured off from the remainder. If the periosteum was injured, and I can not imagine it to be otherwise, how would it be possible that this third portion of the bone should be nourished? If the head was nourished by the ligamentum teres, and the portion connected with the shaft by the nutrient artery of the femur, how would this third piece be sustained? Yet it had been nourished, and was united to the remainder "by callus as smooth and polished as ivory." Another point: the report states that "the ligamentum teres was in a natural state," and we are informed that the head of the bone was fractured off in such a way, that the larger part of it could only be nourished by the ligamentum teres. The ligamentum teres had in addition to its usual functions nourished this, and had assisted in the formation of the existing callus. When an artery performs an additional function, that artery becomes enlarged. This is constantly seen in the anastomotic circulation of a ligated vessel—the inosculating branches soon enlarge to the size almost of the original vessels, whose place they have supplied. In this case the vessels of the ligamentum teres had to perform their own functions, and in addition to nourish this fractured head, and assist in the formation of callus, yet they were found in a natural state. We may add that Mr. Smith is in error in stating that "It is highly probable that they have *all* been examples of *impacted fractures;*" "the displacement of fragments has been prevented;" for in this case the limb was at first shortened, and then by dressings drawn down to its natural length.

The third case is that of Mr. Stanley, of which the notes are as follows:—A young man, æt. 18 years, fell from the top of a loaded cart upon his right hip, the injury of which was attended with the following symptoms:—he was wholly una-

ble to move the limb; the thigh was bent to a right angle with the pelvis, and could not be extended; abduction was difficult; the limb was everted; but there was no shortening, nor could crepitus be felt in any motion of the limb. The patient died of what was supposed to be small pox, about three months after the occurrence of the accident. In the examination of the joint after death, the capsule was found thickened, the round ligament uninjured; a line of fracture extended obliquely through the neck of the femur, and entirely within the capsule; the neck of the bone was shortened, and its head approximated to the trochanter major. The fractured surfaces were in the closest appositon, and firmly united nearly in their whole extent by bone; there was an irregular deposition of bone upon the neck of the femur, beneath its synovial and periosteal covering, along the line of the fracture. At the end of his report, page 59, Mr. Smith refers to the *Medico-Chirurgical Transactions*, vol. 18. On reference to this volume, we find the following important facts which Mr. Smith has omitted in his extract:—"The age of the patient was unfavorable to the occurrence of a fracture at the neck of the thigh bone. The general opinion, therefore, of the several surgeons to whose judgment the case was submitted, favored a belief of a dislocation into the foramen ovale. Forcible extension of the limb was made by pulleys, and the thigh then moved in several directions by which the head of the bone might be replaced in its socket." These facts which Mr. Smith has omitted, bear directly against the position he has assumed. For immediately after giving the seven cases, of which this is one, he says (page 64) "The preceding cases furnish ample evidence of the possibility of osseous union in cases of intra-capsular fracture of the neck of the femur, and it is highly probable that they have *all* been examples of impacted fractures. Certainly, in all those of which delineations have been given, there has been either penetration of one fragment by a portion of the other, or else the irregularity of the line of fracture has been such, that the displacement of the fragments has been prevented. They have been maintained in contact and at rest, and it is under such circumstances alone, that we are to hope for the occurrence of bony consolidation." These are singular comments upon a case in which the limb was forcibly extended by pulleys, and then rocked. If this was a case of impacted fracture, how long would it remain so, after forcible extension by pulleys and rocking? Yet, according to Mr. Smith,

it must have remained an impacted fracture; for under those circumstances alone, does he believe we are to hope for bony union.

To an intelligent surgeon, it will be a sufficient refutation of Mr. Smith's assumptions, by simply stating the following facts. The case was at first treated for a dislocation, and not till the second month was the patient brought to the hospital. Shortly after his admission, he was attacked with an exanthem of which he died. Is it probable that a fracture within the capsule of the cervix femoris, mistaken for dislocation, would have that perfect contact and rest (a *sine qua non* of ossificunion with Mr. Smith), without which we can not hope for bony consolidation, when the limb is first forcibly extended by pulleys and rocked, then the patient is removed to a hospital, where he soon after dies from an attack of acute disease, and all this occurring within the space of three months, from the injury?

Case 4—(Mr. Swan's case).—Mr. Smith's notes are as follows:—"Mrs. Powel, above 80 years of age, fell down, November 14, 1824. Sir Astley Cooper, who saw her soon after, believed that there was a fracture of the neck of the femur, although there was no appreciable shortening of the limb, and only a slight inclination of the toes outward; crepitus could not be perceived; the patient died about five weeks after the accident; upon examination of the joint after death, the fracture was found to have been entirely within the capsular ligament, and the greater part of it was firmly united. A section was made through the fractured part, and a faint white line was seen in one portion of the union, but the rest appeared entirely of bone. The cervical ligament had not been injured." (Smith, page 59.) In this case, the patient was an old lady, above 80 years of age, with the fracture not certainly made out; there was no appreciable shortening of the limb; no crepitus; and only a slight inclination of the toes outward. The strongest point in favor of there having been a fracture, was the opinion of Sir Astley Cooper, which opinion is entitled to great weight; but there are no satisfactory facts given upon which he formed that opinion. This slight eversion of the foot might be given by the patient to relieve the tension on the bruised and inflamed part. We may well query if the vessels of the ligamentum teres would not have shown evidences of having performed an increased function? Would five weeks have been sufficient time for them to furnish osseous union, and resume their original size?

Again, the old woman died in five weeks after the receipt of the injury. Now, it seems to us quite improbable, nay, impossible, that bony union of an intra-capsular fracture of the femur in an old woman, above eighty years of age, in whom *there was not left vitality enough to sustain life*, should take place in five weeks after the injury—*in less time than is allowed for the ordinary union of a fracture of the shaft of the femur* in a *healthy* person in the *prime of life*.

Case 5—(Mr. Adams' case).—This case is reported more fully and is accompanied with an engraving, illustrating it, page 61. The engraving must be considered correct—for it is fair to presume that it would not be made to represent the case any more unfavorable to the side of the question Mr. Smith argues than the facts in the case required. Now, this engraving shows the line of union to extend nearly to the base of the trochanter minor, a point far without the capsule. (See second engraving, on page 61, SMITH *on Fractures*.) This makes it a case of fracture partly within and partly without the capsule—a class of fractures which every one admits may readily unite by bone.

Case 6—(Mr. Jones' case).—Of this case Mr. Smith makes the remark, page 63: "this specimen was sent to Sir Astley Cooper for examination; Sir Astley was of opinion, that the fracture was 'in part within, and in part external to, the capsular ligament; in part united, and in part not; and the neck of the thigh bone absorbed.'" This excludes it from the class of intra-capsular fractures.

Case 7—(Mr. Chonly's case).—Mr. Smith says of this case, "A portion of the upper fragment extended in one situation, a little external to the capsule, this portion was not united." Mr. Smith adduces this to prove that intra-capsular fractures unite, and yet admits it does not belong to the class, and is not an intra-capsular fracture.

This completes the specimens adduced by Mr. Smith, to prove this ossific union of intra-capsular fractures of the cervix femoris. It will be remembered these are not the specimens of one country alone, but the choice specimens culled from the museums of all Europe. In this country, the largest number of specimens are in the possession of Prof. Mussey, of Cincinnati. He claims to have three specimens which prove this.

Of these three, the most valuable one is that about which Prof. Mussey and Dr. Dalton, of Lowell, Mass., maintained so long a controversy. The circumstances of the case, as far

as we have been able to gather them from Prof. Parker's lecture, and from the statements of Dr. Morrell, of Borodino, N. Y., who was one of Prof. Mussey's students shortly after the controversy, are as follows:—The patient was a teamster, away from his home in Northern New Hampshire when he met with the accident; Dr. Dalton became satisfied there was a fracture, and treated him for it. The man became dissatisfied. Dr. Dalton boxed up the leg and sent the man home, a distance of more than one hundred miles, in one of the ordinary country wagons, over the rough roads of that hilly country; on his arrival home, the man's limb was examined by Prof. Mussey, about three weeks after the injury, the dressings removed, yet no fracture could be found; Prof. Mussey maintained this opinion till he came in possession of the specimen, which he thought showed conclusively there was a fracture within the capsule, and which had united by bone, when he made the *amende honorable*. If we had only these facts to rely upon, they would be sufficient to throw a doubt on the nature of the injury. No matter how skillful the surgeon might have been, or how favorable the circumstances surrounding the patient, it would have been impossible to have obtained an union of a fracture entirely within the capsule in four weeks' time. Dr. Dalton may have boxed up the limb in the most skillful manner, and he is a surgeon of high repute in Eastern Massachusetts, yet, it would have been impossible to have applied his pressure so equally as to keep the head of the femur still—jolted, as the man must have been, in one of those old-fashioned, springless wagons, over the half-built mountainous roads of Northern New Hampshire, for a distance of a hundred miles—and yet have, at the end of that journey, an union of an intra-capsular fracture, so perfect that Prof. Mussey denied there ever had been a fracture there.

But these are not the only facts in the case; Dr. Blackman (editor of VELPEAU'S *Operative Surgery*,) has given us the true explanation of the case. In his review of MALGAINE *on Fractures*, while discussing this question of intra-capsular fractures, states (New York *Journal of Medicine*, Sept., 1855,) that Prof. Mussey took this specimen to Sir Astley Cooper, to convince him of the possibility of bony union of intra-capsular fractures; but Sir Astley decided this to be a case of fracture, *partly within* and *partly without* the capsule.

Of Prof. Mussey's two remaining specimens I have been unable to procure histories. I have conversed with a surgeon

of eminence of this city, who has examined them carefully, and he says they are no more satisfactory than the one already referred to. Dr. Bauer, of Brooklyn, has also recently examined them, and is very strongly of the opinion that they are not specimens of intra-capsular fracture.

Since the above was written, we have received the *American Journal of Medical Sciences*, for April, 1857. The leading article is by Prof. Mussey, detailing his cases of "Fracture of the Neck of the Thigh Bone."

We are gratified to find the facts of Case 1, as above stated, corroborated by Prof. Mussey in all essential particulars. In this article, Prof. Mussey admits his inability to convince Sir Astley. He details his interview as follows:—

"On my presenting it for inspection to Sir Astley Cooper, he remarked, 'this bone never was broken,' I said, 'Sir Astley, please to look at the interior of the bone;' he separated the two halves and said, 'this does look a little more like it to be sure, but I do not think it is wholly within the capsular ligament.' It is well known that Sir Astley Cooper, for some years, had taught the doctrine that bony union does not take place in intra-capsular fracture; his views, among the surgeons of Great Britain, were extensively admitted as correct."

This last remark, following, as it does, his account of his interview with Sir Astley, would appear to be Prof. Mussey's assigned reason for his own success.

It is possible that Sir Astley Cooper was so prejudiced as not to admit as facts, points that, at best, were but *doubtful*, but it will hardly be presumed that Sir Astley Cooper would deny facts *about which there could be no reasonable doubt*. This is not the only occasion in which Sir Astley's motives have been impugned. A distinguished lecturer of this country has, in his public teachings, declared that Sir Astley Cooper, by teaching this doctrine of the non-union, "had done more harm than he had ever done good in his life," but those who have studied Sir Astley's works, with an unprejudiced mind, would prefer to believe that he lived alone for truth, for science, and his profession.

Sir Astley Cooper is not the only surgeon of distinction whom this specimen has not convinced. Prof. Mussey mentions John Thompson, of Edinburgh, a surgeon of eminence as well as an author of a work upon inflammation, as one who was not convinced by this specimen.

As to Prof. Mussey's sweeping statement:—"The profes-

sional gentlemen of our country, who have examined these specimens, unhesitatingly pronounce this to be a case of union by bone of intra-capsular fracture," if he will take the trouble to ascertain the opinion of many of the New York surgeons, who have examined this specimen, he will find that this assertion will admit of essential modifications.

Prof. Mussey details several other cases in his own and in other's practice—but this is his best specimen. He also makes some valuable suggestions as to the manner of union and his method of measurement. And we refer, with pleasure, those interested to the *American Journal of Medical Sciences*, for April, 1857, for a further elucidation of his views.

In regard to the Philadelphia specimens, my only source of information is the brief notice of them in the new work on Surgery, by Prof. H. H. Smith, of Philadelphia. His statement is as follows (page 399):—"There is in the Wistar and Horner Museum of the University of Pennsylvania, a femur, apparently of an old woman, in which the neck has been fractured near the head, yet, in which complete osseous union, though with some degree of shortening, has taken place. I have, moreover, in my own cabinet a specimen in which the bone has been fractured through the neck near the head, the fragment having slid down beneath its natural position, and the fracture traveled obliquely down the neck, though still within the capsule, splitting it off in the line of the inter-trochanteric ridge. In this case, which must have produced marked shortening of the limb, there is complete osseous union." This report is so exceedingly brief that no inference can be drawn from it, in fact, the writer does not appear to know whether the specimen is from a male or female. If this is true, then he knows nothing of the history of it. He does not give us the direction of the fracture, or a drawing of it, or even a positive statement that it is entirely within the capsule. In regard to his own specimen, he is more explicit; he gives a drawing and shows that the fractured head has slipped down, and even now the line of fracture can be traced to the inter-trochanteric line. If this is so now, it is probable that the end of the fractured bone extended below the capsule in the first place, as in all cases of fracture, where there is not perfect coaptation, the rough points become absorbed. If we allow for this absorption, it would make the end of the bone below the trochanteric line, a point without the capsule, thus excluding it from this class. If we adopt Prof. Smith's view, that this was entirely within, we

meet with an objection; he states that the head of the bone has slipped down beneath its natural position, and the fracture has traversed it obliquely. This, of course, could not have been an impacted fracture, for in an impacted fracture we should have had the shaft of the bone driven into the cancellated portion of the head—not the head of the bone "slipping down" along the shaft. If this was a case of slipping down of the head, we leave Prof. Smith, of Philadelphia, to controvert the position taken by Mr. Smith, of Dublin, where he says that only *impacted* intra-capsular fractures can have an osseous union.

There remains but one more specimen to examine. This belongs to Prof. Willard Parker, of this city. I am under obligations to Prof. Parker, for his kindness in explaining to me the various points which he considers the case presents. He loaned me the specimen to examine at my leisure, that I might become thoroughly acquainted with all the facts of the case. According to the description of the case given by Prof. Parker, in his lecture, the patient was an old maid, of about sixty years of age, an inmate of the almshouse, of Barnard, Vt. One morning, while going out of doors, she fell striking upon her hip. The doctor in attendance, who did not pretend to be a surgeon, or accurate in his diagnosis, came to the conclusion that there was a fracture. He was of the opinion that he obtained crepitus, accordingly he dressed the limb with the straight splint for six weeks, and at the end of that time found half an inch shortening. The specimen afterwards came into Prof. Parker's possession. The points Prof. Parker relies on to show that this was a fracture, are:—1. The supposed crepitus. 2. A ridge of bone along the inter-trochanteric line, termed the "callus." 3. The neck of the bone shortened on the outer side one-third of an inch more than on the inner side, this being accounted for on the supposition that it was produced by the position the limb was allowed to retain. 4. No such changes are to be found in the femur of the opposite side, which is pronounced healthy. These specimens were procured four years after the injury. The capsule is entirely gone, and there is nothing to show positively where it was inserted; a line is pointed out about three lines below the so-called callus, as the line of insertion of the capsule. On examination of the interior of the specimen, there is nothing to indicate the line of fracture; no callus as is shown on internal examination of other fractures of long bones. There is one point very marked on

the inner edge of the compact structure of the shaft, it is what Sir Astley Cooper terms a "buttress of bone" shooting up from the body into the neck and head, evidently as a support to the head in the new angle which it has assumed, with respect to the shaft. This buttress is formed apparently by the cancellated structure being more compact than in other points. On comparing this specimen with the femur of the well limb, a very marked difference is observable: this line or buttress is stronger, better developed, and is evidently for the purpose of giving support to the head of the bone in this new position. The specimen is far from being satisfactory. If this rough line extending along the inter-trochanteric line, is in reality the line of callus, then it is extremely probable that the fracture was partially *extra-capsular.* For if the capsule extended along the line which runs below this line that is pointed out as the line of fracture, then the insertion of the capsule must have been as low down as the middle of the trochanter minor, an anomaly in regard to insertion of the capsule. If this really was the line of insertion, it is extremely unfortunate that the capsule was not left to show really where it was inserted.

Again, there is no callus on the inside of the bone corresponding to this so-called external callus, but throughout the whole line corresponding to this external "callus," the cancellated structure is perfect. If it should be admitted that crepitus was here obtained, a point which is extremely doubtful, as we have only the opinion of a doctor who practiced many years ago in the small town of Barnard, Vt., a town which now numbers less than two thousand inhabitants,—if it should be admitted on such authority that this was a fracture, still it is by no means established that this was an intra-capsular fracture; for this so-called callus extends along the inter-trochanteric line. The capsule itself is gone, so that it can not be shown positively where it was inserted, and it is probable if there was a fracture, it was partly extra-capsular.

Again, the view which Prof. Parker takes of his specimen conflicts with that taken by Robert W. Smith, of Dublin, on fractures of this class, in his work already quoted. For if there was crepitus, then there must have been motion of one fragment or the other; and if there was motion, then the fracture was not impacted; and it is only this latter class which Mr. Smith contends can unite. My own impression is that there never was a fracture here at all. I think this

is a case of *interstitial* absorption of the neck of the bone; the cause of this absorption being the contusion received by the fall. This view is sustained by analogy. Sir Astley Cooper says this is common in old people; in his work on *Surgery*, vol. 2, pages 314 and 315, Lee's edition, we find the following:—"As the shell becomes thin, ossific matter is deposited on the upper side of the cervix, opposite the edge of the acetabulum, and often a similar portion at its lower part, and thus the strength of the bone is in some degree preserved. This state of things may be frequently seen in very old persons." "When the absorption of the neck proceeds faster than the deposit on the surface, the bone breaks from the slightest cause; and this deposit wears so much the appearance of an united fracture, that it might be easily mistaken for it before the bone thus alters. We sometimes meet with a remarkable buttress shooting up from the shaft of the bone into its head, giving it additional support to that which it receives from the deposit of bone on its external surface"

Mr. Liston, in his *Practical Surgery*, says:—"Gradual shortening of the lower extremity often ensues upon contusions of the hip in persons advanced in life, in consequence of interstitial absorption of the neck of the thigh bone, and alteration of the angle in which it is set upon the shaft. The head of the bone undergoes a change in form; it becomes flattened and expanded, and the cotyloid cavity is made to correspond. This cause of lameness ought to be kept in view. The risk of its occurrence ought to be explained to those who have suffered injury of the hip, and, if possible, it must be prevented.

Mr. Gulliver, in the Edinburgh *Medical and Surgical Journal*, No. 128, July, 1836, *et seq.*, has written very fully on this subject of interstitial absorption; and has adduced cases which we would copy, if our limits would allow. He shows, by his specimens, that the head is enlarged at its lower part; that these cases may occur in young persons; that it is not disease of the joint, from the fact that there is no anchylosis; and that the cartilages are not involved. The cases of John Lynn, J. McGath, and J. Fox, etc., are adduced, and the specimens preserved from autopsies. We have abundant evidence of interstitial absorption occurring from contusion in persons like this old maid, and Mr. Gulliver says this shortening may take place as rapidly as in five or six days. Now, Prof. Parker's specimen corresponds to the facts we have

given:—1. There is a ridge formed along the lower part of the neck, as Sir Astley Cooper states, occurs in these cases of interstitial absorption. 2. There is the buttress of bone shooting up from the shaft into the head as a means of support; this is clearly shown by comparing the two specimens, the one from the well limb, and the one from the contused limb. 3. There was a contusion sufficient for an exciting cause. 4. This occurs in one limb and not in the other, as shown in the case of J. Fox, reported by Gulliver, where one limb was in every respect natural, and in the other interstitial absorption had taken place. This, we believe, is the case in Prof. Parker's specimen. If this specimen is in reality a fracture, it was most probably partly extra-capsular; if not, it was a case of interstitial absorption.

I have thus reviewed all the cases of supposed osseous union. All of them are defective in points of great importance; no one of them places the question beyond a reasonable doubt, and it should be remembered that these are the choice specimens of all Europe and America.

There is a single point more worthy of notice; it is the extreme difficulty there appears to be, in all these specimens, of deciding whether they are intra-capsular, or only partly within. The mere fact that a surgeon of such eminence as Prof. Mussey should have been misled, and should have been so deceived as to take a specimen across the Atlantic, to convince Sir Astley Cooper of the possibility of the ossific union of intra-capsular fractures, by whom it was conclusively shown that he was in error, is sufficient to prove the difficulty of deciding on these specimens. All such specimens should be preserved in the wet state with the capsule still attached, when there could be no doubt of their character.

The argument may be thus summed up:—1. It is absolutely impossible to form a certain and unmistakable diagnosis of all these fractures during the life of the patient. 2. That the probabilities are all against union by bone, from lack of nourishment to the fractured parts of the head, from impossibility of perfect rest, and from synovitis. 3. The argument from the analogy of fractures of the patella, olecranon, etc., is an argument against, instead of for, osseous union. 4. Cases where every circumstance was favorable to union, if any fractures of this kind could unite, yet which failed to unite. 5. The cases given to prove this union not having proved it.

The *treatment* of these cases is obvious. It has been shown that a positive diagnosis can not be formed. It may be a case

of those kinds which do have a bony union. The patient is entitled to the benefit of this chance. If his age and health will permit, the straight splint should be used; while, at the same time, the surgeon should protect himself, by showing the patient and his friends what an unfavorable result there may be. If the fracture is impacted, it should by all means be kept in the impacted state, and all attempts to extend the limb to its proper length should be abstained from.

If the patient is past the prime of life, or of enfeebled constitution, then the double inclined plane splint should be used; and if the patient can not bear that, then simply let the limb rest over a pillow.

ART. IV.—*Extension and Counter Extension in the Treatment of Fractured Thigh, with Description and Illustrations of a New Apparatus.** By J. H. HOBART BURGE, M.D. Surgeon to Brooklyn Central Dispensary; late Surgeon to the New York Dispensary, etc.

EXTENSION and counter extension being, by common consent, a necessary part of the treatment of fractured thigh, it is obvious that the subject possesses inherent difficulties; otherwise, our profession could not escape the charge of culpable neglect in allowing nearly half a century to pass without any essential improvement in the appliances used for the purpose of reducing the limb to its normal length and position, and of maintaining it there.

Sir Benjamin Bell, writing in 1801, says, "An effectual method, indeed, of securing oblique fractures of the extremities, and especially of the thigh bone, is, perhaps, one of the greatest desiderata in modern surgery." The femur, being the longest of the long bones, and surrounded and acted upon as it is by the largest and strongest of all the muscles in the human body, must of necessity, when fractured, require great care on the part of the surgeon to retain the fragments in such relation for a sufficient length of time, as shall result in union without deformity. This very desirable result has been attained in so few cases, in proportion to the great number treated that we can not escape the conviction that some mechanical contrivance, better than any yet introduced, is greatly needed by the profession.

It is not necessary that I should review the means hitherto adopted for fulfilling the simple indications of *reduction* and *retention*. They are sufficiently well known, and, I may

---

* Read before the Brooklyn Medical Society.

say of nearly all of them, the objections to them are sufficiently obvious. The first great advance in this department was made by Desault, when he introduced the long straight splint extending from the crest of the ilium to beyond the foot. Indeed, so great was this improvement over every previous method, that, notwithstanding the important modifications which it has undergone at the hands of our own Physick and Gibson, Desault's name is never omitted in this connection. During the last half century, numerous contrivances have been proposed for the treatment of fractured thigh; and, though some of them possess real merit, I believe the surgical world would not hesitate to declare that Desault's splint, with Physick and Gibson's modifications, and the screw first introduced by Boyer, and since perfected by others, is worth more than all other means ever employed. And yet, my object in the present paper is to refer to its acknowledged defects, and to propose a plan by which, in my humble opinion, they may be obviated.

It is not my purpose to reply to what has been called "the persuasive eloquence of Pott" in his arguments for relaxing all the muscles of the thigh — nor to criticise the practice of any individual surgeon who has labored to furnish us with more reliable appliances for the treatment of the accidents under consideration, I appreciate all their efforts, and have no desire to detract from the honor which is justly due them.

The double inclined plane of Sir Charles Bell with its various modifications by Liston, Lonsdale, Amesbury, Spaulding, Jarvis, Nathan R. Smith, and others, is an excellent resource in cases where there is some special contra-indication to the straight position. But as I write now only for those who are familiar with the annoyances, and the results, of all methods of treatment yet in use, and as preference is generally given to the straight position, I shall deal with that alone in the rest of this paper.

The objections to the present form of the straight apparatus are—1. That the counter extending pressure falls heavily upon the groin (a most sensitive part) causing much pain to the patient, and, also, anxiety to the surgeon on account of the liability to excoriation and sloughing, and the consequent necessity of moving the perineal strap to the other groin, and perhaps, of removing it altogether, in which case the prospect of a shortened limb is by no means an agreeable one to any of the parties concerned. 2. The strap around

the waist, which though it be not tight enough to impede respiration, is a great restraint, and, to one of nervous temperament, almost insupportable. The patient must swallow both food and drink while in an absolutely supine position, and can perform no voluntary motion of the trunk whatever. Indeed, in fracture of both thighs, this confinement is as absolute as if he were in his coffin. 3. That the hips of the patient sink in the bed and are very liable to move away from the splint and thus throw the limb out of the proper line.

During the last year, my brother, Dr. Wm. J. Burge, and I, have devoted considerable time, thought, and money to the development of an apparatus which should not only be liable to none of these objections, but present, also, certain new features of great practical utility. After describing it and pointing out the advantages which we hope to gain, we shall leave it to the profession to decide how well we have succeeded in our effort. Our observations and experiments have led us to the following conclusions:—1. That the straight position is preferable in a large majority of cases. 2. That it is entirely unnecessary to confine any part of the body except the fractured limb and that to which it is immediately articulated, viz.: the pelvis. 3. That the pelvis should be so secured as not to be liable to lateral motion, or to sink in bed. 4. That the groin is not a suitable part for the counter-extending pressure to fall upon. 5. That the tuberosities of the ischia are proper points for such pressure. The correctness of these principles seems to us too obvious to require argument We shall, therefore, spend no words upon them, unless they are called in question, but proceed at once to speak of our method of reducing them to practice.

First, then, in general terms, we retain the straight splint of Desault at its original length, that is, from the crest of the ilium to several inches beyond the foot, and make the extension in the usual way, by means of the screw, adhesive plaster, and roller. We discard the hitherto excellent modifications of Physick and Gibson, not only because they confine the chest, and prevent that freedom of motion of the upper part of the body, which is so essential to the comfort of the patient, but because we obviate the necessity of such confinement, by securing the pelvis, as already intimated, against all lateral motion, and, also, against the possibility of sinking in the bed. In order to prevent the pressure in the groin, we attach the counter extending pads, and straps, by one end to a cushioned platform, upon which the hips of the patient lie,

and, by the other, to a transverse horizontal rod, above and in front of his body, while we fix the upper end of the long splint at a point opposite the side of the pelvis, and independently of all direct connection with the counter extend-

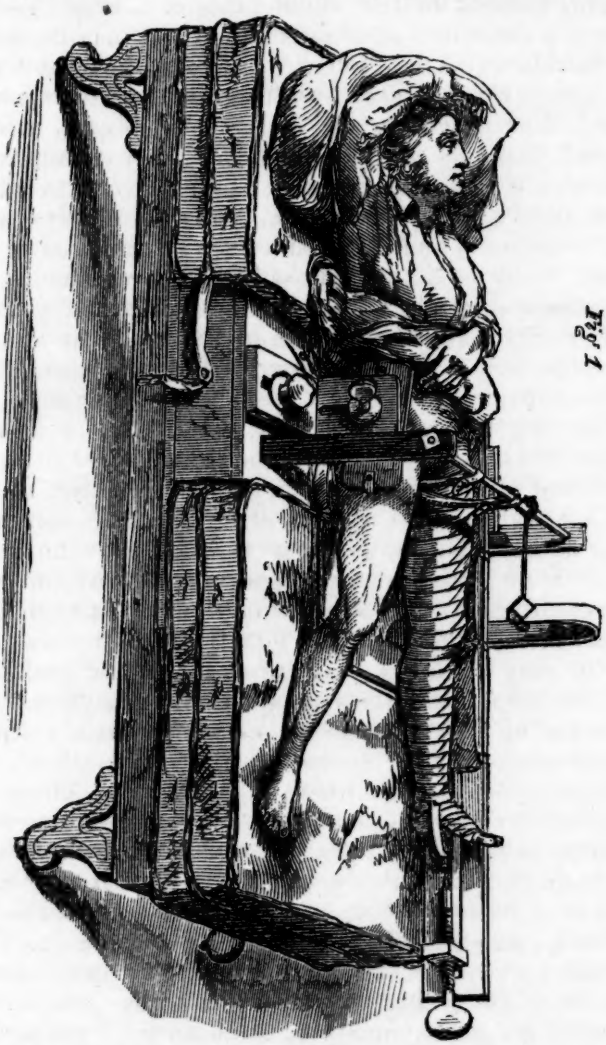


FIG. 1

ing pads, or straps. To be a little more explicit, our apparatus (see engravings, figs. 1 and 2,) consists of two short mattresses, occupying respectively the upper and lower portions of the bed, and also of a central portion, upon which rest the hips of the patient. This central portion is composed

of the following parts:—1. A firm, but easy, hair cushion, upon which the hips of the patient lie; this cushion is secured to a board, one foot wide and two feet long, which lies transversely under the body of the patient. Both the cushion and the board, present at the lower margin, a large V-shaped opening, for convenience of defecation; and in order still farther to facilitate this function, the cushioned board is elevated several inches upon a second platform, by a strip of board at each end, thus providing a shelf for the bed-pan, which is introduced through an opening formed by withdrawing a section of the lower mattress. Upon the cushioned platform, on each side of the cushion, you will observe a rectangular wooden slide; these slides are so arranged as to be separated or approximated at will, and, by a thumb-screw which passes through a fissure in the horizontal portion of each, they may be fixed at the desired point, so as exactly to embrace the pelvis of any patient. There is, also, a fissure in the perpendicular portion of each rectangular slide, and a screw passing through the same; one of these is to secure the upper end of the long splint, and the other for the attachment of a splint, eight or ten inches in length, both of which splints are well padded upon one surface, and may be elevated or depressed at will, in order to bring them to the level of the limb, and fixed at the proper altitude by the screws already mentioned. These splints are mutually transferable, in order to adapt the apparatus to a fracture of either thigh.

For the sake of distributing the pressure and making the patient more comfortable, we propose two counter extending pads instead of one. These we attach by leather straps to the upper surface of the cushioned platform upon which the patient rests, and about thirteen inches apart. These straps pass under the cushion, and, becoming well-rounded pads, traverse the tuberosities of the ischia, pass between the thighs, and thence, perpendicularly, to a horizontal iron rod, at an altitude of eight or ten inches above the patient, transversely to his body, and directly opposite the perineum; this rod is supported by a perpendicular bar at either end, extending upward from the cushioned platform already mentioned.

Attached by one extremity to the horizontal cross-bar, is a rod running parallel to, and situated directly above, the thigh. The other end of this rod is supported by an arched iron bar, extending upward from the outer side of the long splint. This is designed to afford direct support to the injured limb, whenever such support is deemed advisable, and will, we

believe, be of essential service in preserving the arched form of the femur. A silk handkerchief, or one or two belts of suitable width are to be passed around the limb (either internally or externally to the splints of coaptation,) and fas-

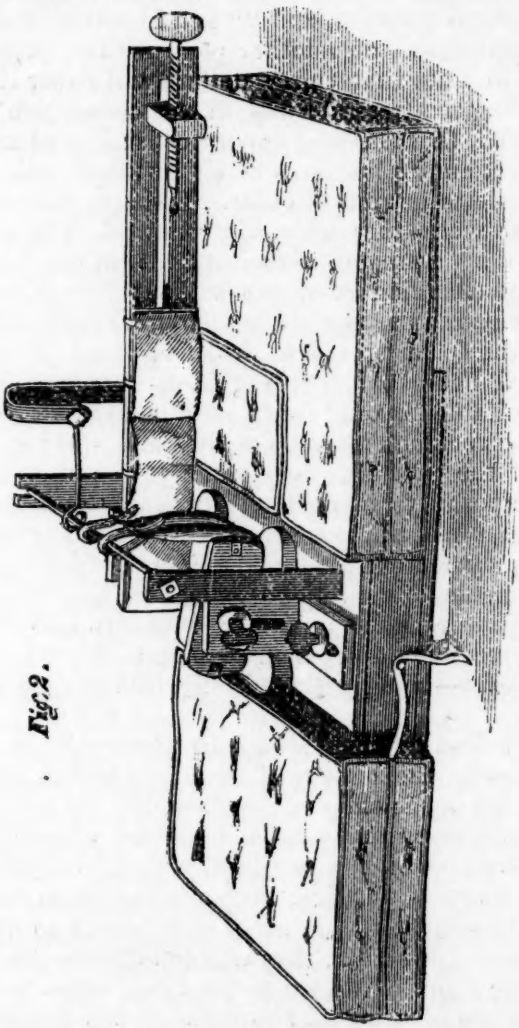


Fig. 2.

tened to the horizontal rod. When this apparatus is used, splints of coaptation are to be applied according to the exigencies of the case, and the views of the surgeon in attendance.

In its construction we have aimed at simplicity; no surgeon

of ordinary ability can fail in its application, even without directions. I mention this as a feature of great practical importance. Complicated surgical appliances can never be used except by the few.

It will be asked if this is an expensive apparatus; this too is a practical question, and though I must refer the reader to the advertisement on another page for full particulars, I am happy to state that thirty dollars will cover the whole cost (including mattresses); and, in this connection, it should be recollected, that the *same* apparatus is adapted to patients of every size, and to fractures of either thigh, and, also, that it is not liable to get out of order. If the counter-extending pads become worn, they are easily renewed. The bed, being composed of separate mattresses, affords an opportunity for the frequent changing of sheets without disturbing the patient, and cleanliness, as well as comfort, is still farther promoted by the space provided for defecation. The ordinary shovel-nosed bed-pan is not required, but any convenient vessel of suitable size and depth may be used to receive the fæces. The rectangular wooden slide and short splint upon that side of the pelvis corresponding to the uninjured limb, may be temporarily removed, at any time, to enable the surgeon, or the nurse, the more readily to reach any part of the patient's body for examination, ablution, friction, application of liniments for the relief of pain, etc., etc. The counter-extending pad upon the uninjured side may also be temporarily removed, should occasion require, as the use of this pad is not essential—being designed only to distribute the pressure.

Earnestly desiring that this apparatus may be of some service in lessening the anxiety of surgeons, and in ministering to the comfort of the afflicted; and confidently believing that it will enable us, in many cases, to make a more favorable prognosis than we otherwise could, we send it forth upon its mission. Many of our first surgeons have seen it in use at Bellevue Hospital. We do not feel at liberty to quote their freely-expressed opinions; they will doubtless speak for themselves in due time. We are perfectly satisfied to subject it to the criticism of a liberal and high-minded profession.

By courtesy of the surgeons to Bellevue Hospital, the principles set forth in the foregoing remarks have been tested in that Institution; and, though the number of cases already treated is necessarily small, the results have been highly gratifying. Many distinguished surgeons, both native and

foreign, have seen the apparatus in use, and we have reason to believe it has, in every instance, created a favorable impression. Both nurses and patients testify to its convenience, and to the ease with which it is borne.

Case 1.—John Madden, æt. 30 years; admitted November 24, 1856, with simple oblique fracture of left femur; general health pretty good, although he had been previously considerably broken down by syphilis. He could not give a very intelligible account of the manner in which the accident occurred. We first saw the patient on the 3rd of December, when ether was administered by inhalation, and upon examination (the amount of tumefaction being still very great), the fracture was thought to be at, or near, the surgical neck. Subsequent examinations, however, showed it to be near the junction of the upper and middle thirds. There was considerable ecchymosis in the groin, resulting from the original injury; the limb was shortened an inch and an eighth. Assisted by Drs. Pope and Himes, resident surgeons, we applied our new apparatus, and left the patient very comfortable. On visiting him the next day, we found he had removed all the dressings, but could give no reason for having done so. We then learned, for the first time, that he was familiarly known by the title of "Luny John;" the dressings were replaced on Friday, December 5th, and the straps fastened by small padlocks. The patient, continuing refractory, kept the roller and splints of coaptation continually in a disordered condition; but, owing to the nature of the apparatus, he could not disturb the fragments of the broken bone, nor by any motion of his trunk or pelvis shorten the injured limb. The counter-extending straps first used, being insufficiently padded, caused some uneasiness at the points of pressure, but no excoriation; these were replaced by others on the 13th of December; on the 3rd of January, 1857, five weeks and five days from the time of the accident, the apparatus and dressings were removed; excellent union had taken place; the limb is in perfect position, and quite as long as the other. If there be any difference it is a line or two longer, and this we conceive to be an advantage, as the pressure upon the cartilages (consequent upon using the limb which has been so long extended), and, also, the absorption and contraction of the callus during the process of complete ossification, must necessarily shorten the limb a little during the few months immediately succeeding the treatment. In this case, the arched form of the femur is perfectly preserved. John is at

work at Bellevue, and is proud to show his limb to any surgeon who wishes to examine it. We are confident that any one acquainted with the man, would say that no apparatus could be subjected to a severer test, or yield a better result. Gratifying as is this case, we would not leave the reader with the impression that such results are *generally* to be expected.

Case 2.—James Kloye, æt. 13 years, of good health and constitution; admitted January 9, 1857, with simple oblique fracture of right femur, at about the junction of the middle and lower thirds, caused by being run over by a carriage. Assisted by Dr. Himes, resident surgeon, we applied our apparatus, January 15—six days after the accident—the inflammation and swelling having in a great measure subsided. The limb was shortened an inch and a half. We gradually extended it to full length. The patient was perfectly comfortable during the whole course of treatment. The dressings were twice renewed, and finally removed five weeks and four days after the accident; union firm; position of foot natural; no perceptible shortening, except upon careful measurement, when a difference of half an inch may be detected. The adhesive plaster used in this case did not retain its place well, yet we have no reason to complain of the result.

Case 3.—Michael Connal, æt. 30 years, laborer; admitted March 5, 1857, with simple oblique fracture of right femur, near the middle of the shaft, and also with simple fracture of left tibia. These injuries were produced by the falling of a bank of earth. Dr. Himes, resident surgeon, applied our apparatus four days after the accident, and also a starch bandage to the fractured leg as soon as the swelling had sufficiently subsided. Before dressing, the right limb was an inch and a half shorter than the left, as nearly as could be determined, the points of measurement being less absolute when both limbs are fractured. This would have been an annoying case under any ordinary method of cure, owing to the difficulty of relieving the bowels without disturbing either limb. As it is, there is not a more comfortable patient in the wards, nor one more easily taken care of. He has now (April 9th) been under treatment five weeks, and the case promises an excellent result. Other cases are in progress and will be reported ere long.

BROOKLYN, No. 60 Court street.

ART. V.—*Induction of Premature Labor with the Douche.** By GEORGE T. ELLIOT, Jr., M.D. Physician to Bellevue Hospital; Corresponding Member of the Edinburgh Obstetrical Society.

MARY Donovan; Irish; primipara; æt. 30 years; attracted my observation, in the lying-in ward of Bellevue Hospital, by her deformity. She is four feet and a half high, strongly built, with broad shoulders and well-formed limbs. The spine presents a well-marked posterior curvature, involving the last six dorsal vertebræ, and probably the upper lumbar, forming an arc with a prominence of at least an inch; there is no lateral curvature, but the tumor is larger to the left of the spinous processes. Anteriorly, the sternum is decidedly bowed, rising abruptly outward from the ensiform cartilage; right chest well formed; three upper ribs on the left side convex at their articulations with the cartilages.

In conversation, I found her of a very low order of intelligence; and some of her statements were ascertained to be willfully false, obliging me to rely on my own examination for the truth of her condition. It was impossible to ascertain the exact date of her pregnancy, but she expected to be confined some time during April, and according to my observations in this hospital and in the Lying-in Asylum, patients are apt to exaggerate their claim on the charity, by antedating somewhat the period of their gestation.

Nor could a satisfactory history of the existing deformity be obtained. According to her statement, she has suffered for some years from epileptiform convulsions, though her tongue was never bitten; these convulsions have not recurred since her gestation; kidneys apparently not diseased. She remembers an attack of rheumatism, affecting the larger joints, lasting for some weeks, and accompanied with symptoms referred to the heart, though she had no medical care.

Examination of the chest gave marked pulsation in the supra-sternal fossa above the edge of sternum; dullness commencing in the third intercostal space, and extending directly downwards to the stomach; apex in sixth intercostal space, five inches from the mesian line; loud systolic murmur at the base, transmitted downwards in the mesian line, but scarcely audible at the apex; this murmur recognizable in the subclavians, not in the carotids; rhonchus anteriorly on the left side, with occasional coarse crepitus in the lateral region; right

* Vide, also, New York *Journal of Medicine*, for January, 1857.

chest normal; posteriorly, well-marked systolic murmur heard on the right side of the tumor, at the site of the posterior curvature.

Abdominal walls tense; long axis of uterus in the mesian line, but that organ decidedly anteverted, and not susceptible of replacement by position; when on her back, with the head unsupported by pillows, a line let fall from the umbilicus would pass through the symphysis pubis. It seemed to me that an inferior extremity could be detected at the fundus uteri; uterine souffle, well marked over the left iliac fossa, and with less distinctness on the opposite side. Fœtal heart not made out at that examination, but distinctly heard on the following day in the left lateral uterine region. Satisfactory examination of the pelvis rendered impossible, by the conduct of the patient, but certainly not deformed to any extent that would greatly interfere with labor; upper vaginal wall decidedly prolapsed; os much retroverted and high up; cervix admitting little finger; no presentation to be detected through the os, nor through the cervix.

Under these circumstances I deemed it advisable to induce labor with the warm water douche for the following reasons:

1. That the operation was in no wise dangerous.

2. That the want of space between the diaphragm and pelvis would exaggerate the existing anterior obliquity of the uterus, in direct ratio to the development of the fœtus.

3. That, although a primipara, entrance into the pelvis of the lesser ovoid of the uterus had already been prevented; the os much retroverted; and prolapse of the upper vaginal wall induced.

4. That, in my experience, these unfavorable circumstances in puerperal women, with such deformity, had greatly increased the danger to mother and child.

5. That these dangers were increased by disease of the heart.

6. That they were still further augmented by a most unfortunate tendency to pelvic cellulitis and to peritonitis in the lying-in wards of the hospital, not likely to be removed before the warm weather.

7. That the child was living, and fitted for extra-uterine life.

Consultation.—The patient was examined by Drs. J. T. Metcalfe, I. E. Taylor, and B. F. Barker. Dr. Metcalfe sanctioned the operation, and thought the heart complication of great importance; he suggested, as possible, that the murmur over

spinal curvature might be transmitted uterine souffle. On the 9th of April, however, the sound remained unaltered. Dr. Barker approved of immediate delivery, but preferred the sponge to the douche. Dr. Taylor recognized the dangers of the case, but preferred that gestation should not be interrupted.

Operation.—The patient consented to the operation, and at three P.M., March 22, 1857, I proceeded to apply the douche. I should have liked to employ the carbonic acid gas, but so much time was demanded in the operation, detailed by Scarzoni, as to make me unwilling to use it in the present instance; and long familiarity with the douche, in relaxing the rigid os uteri during labor, gave me personal confidence in the method that I felt in no other.

In the operation I was aided by Dr. J. Smith Dodge, Jr., one of the house physicians, then in charge of the lying-in ward, who gave the patient the most thorough and intelligent care. The instrument used was the ordinary enema syringe, with a piston and tube: and I directed the nozzle carefully, so that the stream passed against and within the os uteri; a matter rendered difficult by the retroversion of the os, and more so by the excessive apprehension and struggles of my patient, with whom reasoning and persuasion did not avail. After injecting about half a gallon, I stopped, in the hope that she might become more reasonable with time. Ten P.M.—Recommenced, when such were her insane struggles that I had her brought under the influence of chloroform, when about two gallons of warm water were injected to my satisfaction, and with appreciable effect; just after withdrawal of the instrument vomiting occurred, preceded by violent straining efforts, and immediately afterwards a gush of waters demonstrated rupture of the membranes.

March 23, seven A.M.—Patient has slept during the night, and offers much less resistance to the operation. About six quarts were injected; cervix thinner; vagina cool and relaxing. Two P.M.—Has had pains in loins and hypogastric regions, with short, but marked, intervals; vagina much relaxed; cervix very thin, dilated to about an inch in diameter, and dilatable. Five P.M.—The nurse summoned Dr. Dodge hastily, as she stated that "the waters had broken." Dr. D. found her fully in labor; pains strong and regular; quiet now, and hopeful; os fully dilated, head fairly engaging in the pelvis; pulse 152, rising with strong expulsive efforts to 170, rather due, in Dr. Dodge's opinion, to irritability of the diseased heart than to

general excitement. The head passed the perineum about nine P.M.; posterior fontanelle turning to left thigh; child made two efforts at respiration, when Dr. D. completed delivery with his finger in the axilla. The child was a male, apparently still-born, but revived with stimulus to the skin, with chloroform, and alternate plunging in hot and cold baths.

At this time I arrived, and continued the use of the same means, while Dr. D. attended to the placenta. Respiration became natural, and the child was wrapped up in warm cotton and blankets; weight, five pounds ten ounces; fully formed for extra-uterine life; *the frontal bone was depressed half an inch below the parietal;* within half an hour the placenta and membranes came away, and the uterus contracted firmly.

Result to Mother.—Pulse 150; skin soft; tongue moist; nervous system composed; slept some during the night. She has since made a good recovery. On examining her yesterday (April 9), I satisfied myself that the left side of the pelvis, opposite the cotyloid cavity, is narrowed by its approximation to the mesian line.

Fate of Child.—Its body became warm, though its uncovered face remained cool; four hours after birth it bled at the nose, lost about an ounce of blood, and died in twenty minutes without convulsions.

Post mortem, twelve hours after death.—Depression, already described, of frontal bone quite evident; extravasated blood beneath the arachnoid, at the posterior convex surface of right hemisphere; clot, the size of a gooseberry, in the posterior horn of each lateral ventricle, and a smaller one in the left optic thalamus; blood extravasated at the base of the brain.

REMARKS.—I feel satisfied, from the statements of Dr. Dodge (in whose bed-side skill I have entire confidence), that I should not have terminated the labor by version or with the forceps, from apprehension of additional risk to the child. For the manner in which the labor progressed, under the circumstances, was such as to warrant confidence in its viability.

Anterior Obliquity of the Uterus.—The anterior obliquity of the uterus, in Mary Donovan, is not to be confounded with that occurring in women whose abdominal walls have been relaxed by frequent child bearing; nor yet in those where originally lax fibre allows of great displacement. In those cases, position, pressure, and a bandage will generally suffice; and even where reposition can not readily be brought about

before discharge of the waters, one has a perfect right to expect that time and nature's efforts will dispense with obstetric aid.

I remember a remarkable case of this class, to which I was called by Dr. J. Trenor, jr., where, after escape of the waters, the os was so high up, and so retroverted to the left sacro iliac synchondrosis, that I could only reach it by introducing my hand; and yet, in this well-formed woman, time alone sufficed to bring the os into a more favorable position, and complete relaxation was brought about by the douche. But the case is far different with so robust a primipara as Mary Donovan, in whom the obliquity was a necessary consequence of the diminished space between the diaphragm and pelvis, and not to be relieved by position. In such deformity, obliquity is but a question of degree, as may be illustrated by these examples:—Dewees encountered excessive anterior obliquity "in a very small woman, with rather a contracted pelvis," where, after hours of suffering, labor had to be terminated by version. Mauriceau's seventy-third observation, in the appendix to his edition of 1738, gives the details of a case where a dwarf, æt. 27 years, and only two feet and a half high, presented such anterior obliquity that her abdomen touched her knees; she died in labor undelivered.

Indeed, while these cases occur but seldom, it is especially to them that the criticism of Burns is applicable: "Daventer, who was both a candid and experienced man, has, perhaps, made the moderns too inattentive to obliquities of the womb by going to the other extreme."

A somewhat analogous case.—Cases that I have seen, similar to the one narrated, have been apt to need assistance from art; and, perhaps, the notes of the following one, taken during the period of my residence in the Dublin Lying-in Hospital, will furnish an example of the difficulties to be apprehended:—

Charlotte Davis, æt. 30 years; admitted September 3, 1849, at ten A.M., into ward twelve, in labor with her first child; she has suffered from Pott's disease at the age of twelve, and several of her dorsal vertebræ are anchylosed. Her health is now good, indeed, robust; and her disposition very cheerful. No apparent deformity of the pelvis externally, nor can any diminution of the brim be recognized; the pubic arch, however, is somewhat sharp; first stage concluded at an early hour of the 5th, from which time the pains recurred constantly and with great force, but without advancing the head.

Four P.M.—Scalp tumor formed; head still at the brim; ordered a stimulating enema; pulsations of fœtal heart could not be accurately ascertained. Nine P.M.—Somewhat weak and anxious; voice hoarse from shouting; scalp tumor increased; no advance in the head. Eleven P.M.—Head in the same position; Dr. Shekleton decided to introduce the forceps, though without much anticipation of success. Fontanelles and sutures had been obliterated for some hours; as was anticipated, traction with the forceps proved unavailing, when the head was lessened and withdrawn with the face anteriorly. When the patient left the hospital, which she did at the usual time, she was recommended to seek assistance at the seventh month of any ensuing pregnancy.

Now, I have no doubt, in looking back at this case, that the chief difficulty arose from anterior obliquity, for there was no disproportion of the superior strait, through which these strong expulsive efforts could not advance the head; and yet the direction of the posterior fontanelle (towards the right sacro iliac synchondrosis), the second in frequency ought not to have interfered with descent.

We may say with Mauriceau: "*celle qui est petite ou trapuë, ou contrefaite comme la bossuë, n' a pas la poitrine assez forte pour faire valoir ses douleurs et les pousser en bas.*"

Effect of Obliquity in Mary Donovan.—Certainly, what I apprehended chiefly with Mary Donovan was that the irremediable obliquity of the uterus would render the dip of the fœtal head into the pelvic brim difficult, by transmitting the uterine force through the fœtal spinal column against the upper part of the sacrum, where it would be met with resistance, in so direct a line as to need, perhaps, the assistance of art—certainly to protract the labor.

The correctness of this view appears to me to be demonstrated by the cause of the child's death, even under the favorable circumstances of its birth. On reviewing the case, it will be seen that the obstacle to the passage of the fœtus could not have arisen from the cervix, for the os was fully dilated by the time that the expulsive efforts were called into play; and as the presentation was the most favorable (left occipito-anterior), it is certain that the depression of the frontal bone must have been occasioned by pressure against the posterior pelvic wall. It is evident that it could not have occurred before labor set in, for the head had not entered the pelvis as it so frequently does in primiparæ.

Again, the character of the sub-arachnoid effusion was

such as is so frequently met with in death of the fœtus, after strong compressing force has been applied in the antero-posterior diameter. I have more than once seen such extravasation, at its most frequent site—posterior convex surface of hemispheres—after such an occurrence; the effusion into the ventricles is rare, while either that beneath the arachnoid, into the ventricles, or at the base, was a sufficient cause of death, and if occurring at full term, either with or without the use of instruments, would have made me regret that premature labor had not been induced.

It is, moreover, evident that labor deferred for another month would have increased the difficulty, for, in the words of Chailly, "*Le fœtus parvenu au terme de la gestation ne diffère de celui de huit mois que par ses dimensions.*" It will be seen at once that pressure on the frontal bone obstructed the flow of blood through the longitudinal sinus and its tributary vessels, opening as they do obliquely forward; a fact prominently brought forward by Dr. Radford, and used with advantage by Dr. Simpson, as an argument for version in deformity of the pelvic brim. As a further illustration of the diminished risk from lateral pressure, I may mention that I have seen, within a short time, a child, whom I delivered with long forceps some two years ago, after one parietal bone had been so indented by the promontory of the sacrum as to allow one finger to be laid therein; there is now no trace of the deformity, nor did any inconvenience result therefrom. In that case, my friend, Dr. Chas. E. Isaacs was present, and gave chloroform.*

Value of Douche further illustrated.—Mary Donovan's case adds another to the increasing list of those in whom the water douche has brought on labor, in a manner closely simulating the most fortunate efforts of nature, and avoiding some of the dangers to which she so often leaves her patients exposed.

Within a month, I have had three other cases, interesting from this point of view. In one, where the left hand presented through the unbroken membranes, dilatation of the os (preparatory to version) was completed by the douche in the happiest manner, without their rupture. In another, a lady pregnant for the second time, and arrived at term, had commencing labor pains, on the 27th of March, when the os

* Vide, New York *Medical Times*, for December, 1854, for a paper by the author on Injuries of the Head in Young Children.

dilated to the size of a half dollar, while, through the membranes, I could distinctly recognize the head well down in the superior strait, and presenting in the first position; when this had been accomplished the pains ceased, and no farther uterine action took place until the 6th of April, when the labor was completed, and this, notwithstanding that, on the 30th, the membranes ruptured, and as great a proportion of the waters came away as happened with Mary Donovan.

Now this is a class of cases familiar to all who practice midwifery, and thoroughly under the control of the douche. On the second day, I succinctly set before my patient her condition, and the means within my reach for producing her baby within a short space of time. But I did not sufficiently possess her confidence, and her fears were augmented by her fond desire that the present infant should supply the place of one lost from scarlatina.

Last night I delivered a primipara, æt. 33 years, with forceps, of a living male child, weighing more than eight pounds, in whom an undilatable os yielded pleasantly to the douche.

Nor are these the only cases wherein the douche is applicable. Cases occur, in the practice of men of honor and experience, wherein it may be desirable, for many reasons, that gestation should not exceed its necessary limits; and, whereas, it is certain that nature does not assign an invariable limit for the intra-uterine existence of the fœtus; it is also much more than probable that labor thus induced does not increase the danger to the mother or child, and may be confidently said to diminish the risk of delay from unyielding os or cervix.

In some of these cases of prolonged gestation in primiparæ, it is probable that employment of the douche, at the proper time, might greatly diminish the danger to mother and child. It has often occurred to me that it would have been beneficial in the case of a primipara, last August, in whom I believe that gestation was prolonged. The mother and child are doing well, but delivery could only be effected with long forceps, through the united efforts of Dr. Metcalfe and myself, and demanded the expenditure of all our strength; and I believe that the chief obstacle arose from the bulk of the boy, who weighed nearly thirteen pounds; although that difficulty was increased by the position of the head—the second of Nægele.

Moreover, in those cases of rigid os, where the waters have escaped, and the vagina is becoming hot and dry, the douche is doubly beneficial—dilating the womb while it relaxes and cools the vagina.

If the experience of others shall confirm the favorable views of the applications of this agent set forth in these articles,—based as they are on four years of careful trial—it is my conviction, that the first stage of labor will hereafter be divested of much anxiety and risk.

43 West Thirty-Second street.

ART. VI.—*Report of a Case in which the Sting of a Bee proved Fatal.* By NELSON NIVISON, M.D., of Tompkins Co., N. Y.

MR. A. E., the subject of the following sketch, was by occupation a farmer; of active habits; æt. about fifty years; of a bilious temperament; strong and muscular. August 8, 1856, while engaged in the apiary, was stung by a bee at the side of the neck. He was much accustomed to these accidents at this season of the year; they were usually followed by considerable swelling and local irritation, but constitutional symptoms, till now, had never attended them. The phenomenon connected with the accident in question had this peculiarity, the pain, though momentarily severe, was of short duration, *no swelling or discoloration followed*. This dissimilarity to former accidents attracted the patient's attention, but he was sure he could not have been deceived for he actually removed the sting with his fingers.

About two hours after the occurrence he began to experience a variety of unpleasant sensations, accompanied by slight nausea, which was followed, in an hour longer, by pretty free vomiting; this continued at intervals till I saw him, which was four hours later. I found him vomiting occasionally, and constantly complaining of a very disagreeable nausea. Breathing somewhat oppressed and sighing; his condition otherwise appeared to be normal.

His general health up to this time had been good. I was unable to discover any cause for the gastric derangement, other than the bee-sting. There was at this time not the least trace of local irritation in the part indicated by the patient. The situation being, however, in the vicinity of important vessels, it occurred to me that the poison had probably been speedily absorbed, or, perhaps, had directly entered the circulation, and thus at once account for the absence of local symptoms, and the presence of the constitutional disturbance.

I advised a free use of brandy and water, a mustard plaster to the epigastrium, and opiates to be freely used, in case the vomiting should continue.

August 9.—Being actively engaged, did not see the patient till afternoon, and was much chagrined to find that the nausea and vomiting had constantly grown worse since my last visit, and that, notwithstanding the opiates had been given, no sleep had been procured. During the night, a moderate diarrhœa had come on, which had now become quite troublesome. It was apparent at a glance that the case was becoming one of grave import. The countenance was shrunken, wan, and anxious. The pulse was yet natural in frequency, though it had lost much of its force and volume. The tongue was covered with a dirty white fur, pale, soft, and flabby. Had taken brandy frequently, but vomited it immediately, in fact, could retain nothing on the stomach. Ordered—a teaspoonful of laudanum every half-hour till it was returned. Renew the sinapism to the epigastrium. Nine o'clock P.M.—Has taken the laudanum as ordered, but continues to vomit. ℞ Hydg. sub. mur. grs. xx., pulv. opii. grs. iv. Repeat this if the first is not returned.

August 10, six A.M.—Returned the calomel and opium; slept about three hours during the night; feels better; has vomited but two or three times since last visit. Ten A.M.—Bowels have moved quite freely, evidently the effect of the sub. muriate. Patient comparatively comfortable, though somewhat prostrated. Ordered—brandy freely, ammonia, and opium. Six P.M.—Bowels move occasionally, stools less consistent. Continue brandy and ammonia, and take hyd. cum. creta., grs. iv., pulv. opii. grs. ij, once in three hours till sleep is produced.

August 11.—Symptoms much as at last visit, except that there is nausea and occasional vomiting. No sleep, though opiates continued through the night. Twelve M.—Bowels quiet; vomiting much worse; skin moist, cool, and clammy. Add two grains quinia to each powder. Eight P.M.—All symptoms worse, great restlessness and jactitation; pulse feeble, otherwise natural; gave hyd. sub. mur. grs. ij, every two hours, opium, morphine, and brandy *ad libitum*. But though an enormous amount of opium was given, patient slept but an hour or two during the night.

August 12, six A.M.—Patient more quiet, but continues to vomit occasionally. Continue the treatment. Six P.M.—The opiates which were given freely through the day have measurably controlled the more violent symptoms. Omit the sub. mur. cret. opiates, and stimulants.

August 13.—No sleep during the night; continued jactita-

tion; pulse had gone from 90 up to 120 during the night; frequent discharges from the bowels; continued nausea and occasional vomiting. Ordered—sulph. quinine and opium in large doses. Four P.M.—Remedies produced no apparent effect, symptoms all worse. The case was now truly alarming, and I summoned to my assistance my friend Dr. Henry Spence, of Yates Co. He advised a return to the alterative doses of the sub. mur. hyd., and continue the other remedies. These and various other expedients were faithfully tried, but notwithstanding all we could both do or suggest, the patient continued to sink and died on the following day. Six days from the commencement of the attack.

The above is an outline of this singular case, written from memory (the notes having been mislaid). It suggests the inquiry—Was this morbid train of symptoms with its unfortunate termination, really caused by the sting of the bee? My own impressions, received at the bedside of the patient, were strongly in favor of an affirmative answer to this interrogatory. In many of its features—which could be more easily appreciated than described, in the character of the evacuations, in the protracted wakefulness, and in its obstinate refusal to yield to any of the various means made use of, it differed essentially from any of the gastro-intestinal diseases peculiar to that season of the year.

The *modus operandi* of the poison I will not attempt to explain: but I think it not improbable, that had the danger been anticipated by a free and much *earlier* exhibition of powerful stimulants and anodynes, the melancholy results might have been averted.

ART. VII.—*A Case of Gangrene.* By J. HENRY CLARK, M.D., of Newark, N. J.

THE following case is, in many respects, very remarkable; it has no parallel in the experience of our oldest practitioners. I have called it a case of gangrene, because of a prominent concluding symptom. I should be glad of an opinion, with regard to the name and character of the disease, from any whose experience or reading suggests an analogous case. I have very carefully noted every symptom, important and unimportant, in the order of its occurrence, that the reader might be able to form an opinion of the case, with nearly the facility of the observer, who sat at the bedside.

Case.—Squire Titus, a gentleman of Newark, in the business of cracker manufacturing, on a large scale, was the unfortunate subject; his time was mostly spent in the open air, in the course of his business engagements. He was twenty-eight years of age, tall, weighed two hundred pounds, countenance pale and puffy looking. To the ordinary observer he would be spoken of as the "picture of health." For months past, although he uncomplainingly pursued his usual avocation, some days his extraordinary pallor arrested the attention of his business acquaintances, while, upon other days, his florid and flushed countenance gave him a noticeable appearance of vigorous health. I am now disposed to think that the fullness of countenance said to be sometimes apparent, and which I myself observed, was the result of bloating.

These are his antecedents, as far as I learned them from him:—He was very robust till the age of sixteen, since which he has frequently complained of illness, although none of these attacks were sufficiently severe to detain him from his ordinary business engagements. With regard to his ailments, they were of an anomalous character, but the causes were not evident, the prominent symptom being always "general *debility.*" I could find no evidence of scrofula in the history of his family, or among his antecedents; his family having all been very healthy, and there having been no indications of the kind in his personal history. I made careful inquiry into all the facts, because, from the first time that I saw him as a patient, I felt that there was something about his case that I did not comprehend. I could see no reason for the kind of symptoms of which he complained, nor of the *debility* to which he had long been subject, although still engaged in business. His pulse was rather feeble, if I remember accurately, and constitutionally slow.

Early in March of 1856, he was seized with earache, but had often suffered from the same cause before. He was somewhat deaf in the affected ear, the permanent effect of a previous affection of the organ.

March 22.—Mr. Titus called at my office complaining of pain in the ear previously affected, and in which there was some degree of deafness. Upon examination I found tenderness upon pressure, both before and behind the auricle, and upon the mastoid process. Patient represented the pain to be of the most agonizing description, constant and lancinating. From the appearance of the drum, the severe pain, the tenderness upon pressure, and upon the introduction of the

speculum, I regarded the case as one of inflammation of the external ear, with a disposition from the external to the internal ear. The pain was not less, notwithstanding a discharge had been established. The issue of the case disposes me to regard this pain as of the same character as that which afterward attacked the skin. The pain was in both cases of the same kind, and the effects of the abstraction of blood was much the same—relief in the first instance and metastasis afterwards. Ordered—three leeches under the mastoid process to be followed by a blister.

March 23.—My patient called in and reported himself very greatly relieved.

March 25.—Still more relieved—still some degree of pain continued. As the blister had healed, ordered Croton oil in order to keep up some degree of counter irritation.

March 26.—Doing well.

March 27.—Still further improved.

March 28.—Felt as well as usual, and proposed to resume his usual engagements.

March 29.—Was summoned to attend him at his residence, in Lombardy street; he had hitherto been an office patient. Found him suffering apparently from an attack of fever of a mixed character, such as is often met with at this season in Newark, especially in the vicinity in which my patient resided. The disease seemed disposed to assume the form of intermittent, still it was remittent in, its character. Pulse 110; tongue not much coated; skin not very hot or dry; little thirst; bowels constipated; very great irritability of the stomach; and very intense headache. The latter was so pressing that he scarcely complained of any other symptom.

The stomach rejected every thing thrown into it, nor did the employment of all the anti-emetics in general use, seem in the least to mitigate this symptom. The use of chloroform in small doses, and ice, remedies which I seldom find ineffectual, were of no avail to relieve this distressing symptom. Gave calomel and morphia, in small doses, dry upon the tongue, and ordered mustard to the epigastrium. His bowels were unmoved, nor would the stomach retain any cathartic. Gave magnesia, but it was instantly rejected.

March 30.—This state of things continued with no improvement.

March 31, morning.—Tried the "fluid extract of senna," and succeeded in procuring an evacuation, though the nausea continued. During the 31st, and the following day, a few

doses of chinoidine controlled the disease; the pulse fell to 80, and became pleasant and regular.

April 1.—At my morning visit, there was every indication of a speedy recovery; there was a clean tongue, clear countenance, bright eyes, and a cheerful *expectation* of resuming, very shortly, his accustomed engagements. Still there were some symptoms that were less desirable. Rising from his bed yesterday, and attempting to walk a few steps, he fell heavily to the floor, having apparently fainted. Insomuch as he had never fainted before, this was an unpleasant symptom. He attempted to rise from his bed to-day with the same result; besides the headache continued with little mitigation. Afternoon—much the same as in the morning.

At my evening visit my attention was called to a red and excessively painful spot on the left elbow, which was attributed very naturally to the fall, I saw no reason to doubt but that was the cause. It was not a bright red, nor an erysipelatous redness, rather erythematous; it was entirely unaccompanied by swelling or any considerable tenderness on pressure. I am now certain that the character of this local difficulty is revealed by the subsequent history of the case; pulse natural. Ordered—tonics, nourishing food and rest, and regarded him improving, notwithstanding these somewhat unfavorable symptoms.

April 2.—Pulse natural, no pain in elbow; countenance improved; headache gone; patient was cheerful, and spoke of resuming his business. Ordered a more nourishing diet, told him to eat anything he pleased; directed the continuance of chinoidine and anti-periodic as a tonic. He appeared so well that I discontinued my evening visit.

April 3.—Found my patient suffering from an intense pain about the middle of the anterior portion of the tibia; pain of the same character as that at the elbow; seemed to be confined to a circumscribed spot; no redness or swelling apparent. The pain was intense; learned that it had commenced late in the afternoon of the day before; supposed that the symptom was occasioned by an attack of periostosis; not regarding it as in any way connected with the affection of the elbow, which was now fully relieved. Ordered—four leeches, which entirely relieved the pain, but produced *very great exhaustion*, then to me quite unaccountable, but which the issue of the case seems to explain. Afternoon.—Same kind of pain—sharp, lancinating, excruciating, was experienced on the *instep* of the same foot, with

some slight degree of redness and a little œdema. In view of the evident exhaustion produced by the leeches, did not apply more, but directed a blister and anodyne. Pulse regular; somewhat full; tongue clean; finding the symptoms embarrassing, and feeling unable to satisfy myself with regard to the diagnosis, asked a consultation, and it was agreed upon for the morning.

April 4, nine o'clock A.M.—Met Dr. Samuel H. Pennington; found the leg and foot considerably swollen; somewhat œdematous; some pitting on pressure; a rheumatic sort of redness of the large toe, of the first joint of the thumb, also, of both elbow joints, especially the one first affected; several other places, besides, were tender upon pressure; indeed, the whole body seemed to be in such condition, that pressure *almost anywhere* produced pain. There was no sore throat; nothing indicating the existence of scarlitina poison now, or at any previous time; pulse under 100, pleasant and full; tongue clean; no headache; complained of feeling weak; not otherwise ill; little pain anywhere if not touched. We decided to continue a free tonic course, as there was constipation and the appearance of inflammatory rheumatism; ordered a cathartic of Rochelle salts. The case, in our judgment, presented more of the symptoms of acute rheumatism than of any other disease. There was much obscurity about the case; we decided upon an expectant course, on the whole, and determined to watch closely, and await future developments.

Evening.—Symptoms not changed materially, except that the swelling in the leg had increased—it was more œdematous; observed some lowering of the temperature of the leg, which I attributed to the coldness of the room, and to the accident that the limb had been, for the most part, uncovered for several hours; I observed a slight discoloration, which I supposed might be attributable to the very great distension of the skin and the consequent prevention of the return of the venous blood; the tongue was clean; pulse slightly excited, but full; did not seem to indicate exhaustion; he had taken broths, soups, and quinine very freely; did not change the prescription which had been decided upon in consultation, except to order an anodyne.

April 5, nine o'clock A.M. —A terrible change had taken place; the leg was gangrenous and discolored, from the knee to the foot; the foot was blackened; the elbows, thumb, and several other parts of the body exhibited gangrenous discoloration; pulse 120, and feeble; countenance

anxious and distressed; tongue moist and clean. Dr. Pennington being engaged, sent for Dr. L. A. Smith; met Dr. Smith, with his son, Dr. E. D. G. Smith; we agreed to order stimulants, *ad libitum*, which were continued as long as the patient could swallow. Twelve o'clock, M.—Has sank rapidly since nine o'clock; he held up his hands, discolored by gangrene, and demanded the reason, and asked if it was a fatal symptom; his arms, legs, chest, indeed, every portion of the body exhibited the same gangrenous discoloration; mind perfectly clear; extremities of very low temperature, in spite of every method of applying artificial heat. Five o'clock.—Hiccup began; mind still clear. Seven o'clock.—Delirious; talked constantly to his horses; supposed himself holding the reins; had been very quiet all the P.M.; his cheerful chirrup to his horses, calling each by name, filled the house, and contrasted strongly with the weeping of his young wife and affectionate mother, who gathered about the bed, as the end evidently approached. About nine o'clock, his talking subsided into low muttering; his pulse was scarcely perceptible; the death-damp appeared, but he continued to breathe till ten o'clock, when he expired. His body was greatly discolored. The undertaker, a man of age and experience, says that he never saw such a corpse before, and remarked: "If he had lived a few hours longer he would have become as black as a negro."

To what category does this case belong? What was the cause? An unmitigated quack—who called in to him a few hours before his death, and told him that he had seen and *cured many such cases*, and could have cured him if he had seen him in time—had been, for some weeks, giving him mixtures and pills; could he have administered some poisonous compound? There is no reason to believe that he could have been poisoned by accident or design; his diet was the same as the rest of the family, which would serve to preclude the possibility that the cause is to be found in diseased beef or grain; there is nothing in his habits or antecedents to induce the suspicion that he purposely poisoned himself. It does not seem to answer to any of the descriptions of erysipelas.

It seems to the writer to belong to the same class as those cases that commence in one part of the body, with acute pain, and rapidly terminate in gangrene. It seems analogous to the "black plague" of the west. I have no experience which enables me to speculate with regard to the cause or the diagnosis.

NEW YORK PATHOLOGICAL SOCIETY.

REGULAR MEETING, March 11, 1857, DR. JAS. R. WOOD, *President.*

(Reported by E. LEE JONES, M.D., *Secretary.*)

Varicocele—Operation.—DR. A.C. POST presented a portion of a scrotum, removed by him for varicocele, last Saturday. The operation performed, was that generally known as Astley Cooper's, modified by Dr. Watson, and consisted in the removal of all the pendulous portion, which could be drawn down by the testis. It is unattended with danger, provided proper care be taken to secure the bleeding vessels.

In reply to a question from the President, as to whether the testicles in such cases were ever left bare, and only covered by granulations, Dr. Post said, he had always been able to cover them. To one unaccustomed to the operation, or seeing it for the first time, it would appear, that too much integument had been removed; but, by a proper methodical arrangement of the sutures, all difficulty could be obviated.

DR. WOOD stated that he had frequently operated in this manner, and had never failed to cover the testicles readily. He had, however, seen a case operated upon by another person, where there was not sufficient integument left to cover the testicles.

Larynx and Trachea of a Suicide.—Dr. FINNELL exhibited the larynx and trachea, with the blood vessels, obtained from a young woman, twenty years old, who was found dead in an entry way. Her throat was cut in two places. The first wound was four and a half inches in length, and the second, about an inch below, was four inches in length; both were transverse; the upper one was superficial, simply exposing the muscles; the lower was much deeper, and severed, completely, the carotid artery, and, partially, the jugular vein on the right side. The stomach merely presents that blanched appearance occasioned by the sudden loss of blood. The uterus is also blanched. The heart was firm, contracted, and perfectly empty. The larynx shows the division of the muscles on the right side. Both wounds were deepest at the right, as if the cuts were made from left to right.

DR. POST remarks, that the wounds of the throat seemed to be remarkable, inasmuch as the vessels were injured without penetrating the larynx or trachea; and, in such cases, it was far more common for the vessels to escape, even if the trachea was cut nearly through, and that it implied that the force was more lateral than is usually the case.

DR. MARKOE agreed with Dr. Post, as to the manner in which the wound was inflicted; that the instrument was pressed down with more force at the side of the trachea, where the vessels were wounded.

In answer to a question from Dr. Wood, as to how long the patient lived, Dr. Finnell stated, that he did not know.

DR. WOOD thought that recovery was more usual in cases of secondary hæmorrhage of the carotid, than from any other artery of equal magnitude, and instanced two cases illustrating this fact. One occurred in the son of a medical gentleman of this State, where the common carotid was tied by Dr. Hamilton; secondary hæmorrhage followed; com-

pression was employed, and he recovered. The other was a case operated upon by Dr Parker; hæmorrhage occurred a few days after, was arrested, and recovery took place. And in experiments that have been tried to arrest hæmorrhage from the carotid, it was found that certain styptics were successfully employed, and even in cases where this was not used, the hæmorrhage was arrested spontaneously in sheep and other animals. He had an idea, that the action of the larynx drew asunder the carotid artery, and, in this way, we have the artery retracting, contracting, the external and internal coagula are formed, and the hæmorrhage is arrested. He had often been asked in courts of justice, how long a person would live after division of the carotid artery; bearing on this, he mentioned the following:—A female in Grand street, the wife of a butcher, was stabbed by her husband at the street door; the artery was cut off; after the wound was inflicted, she walked through an entry way, and ascended a flight of stairs, which he thought would require some two minutes to accomplish; the wound was about an inch in length. In the Bond-street murder, the external carotid was completely severed, and the internal partially; the heart wound must have been received afterwards, inasmuch as there could be traced on the wall, by the door, jets of blood, in a semicircle, where he is supposed to have turned.

Dr. Finnell stated that, two years ago, a negro received a wound, on the sidewalk, in the neck, by a butcher's knife, the anterior innominata was severed, and he died instantly.

Dr. Isaacs thought it would not be out of place, to relate a fact that came under his observation in the N. E. boundary of Maine. A horse had his femoral artery wounded by a sharp stake; he bled profusely, and died in two minutes. In another case, in a man, who had his femoral artery tied at Poupart's ligament for aneurism in the middle of the thigh; everything went on well till the eleventh day, when the ligature suddenly gave way; while the hæmorrhage was going on, a doctor was sent for, across the street, and arrived just in time to employ pressure, and save his life. Patient did very well afterwards, and there was no return of hæmorrhage.

Rib—Fracture—Ensheathing Callus.—Dr. Finnell presented a portion of a rib, that had been fractured. The reparative process has taken place, and the ensheathing callus (so called by Mr. Paget) has remained after the union of the bones. On sawing it across, the broken extremities of the bone are seen closed by a layer of compact bony structure, and around all this the ensheathing callus is formed. Mr. Paget had not seen this state of things in any of the ribs, but mentions a similar case as occurring in the clavicle.

Dr. Isaacs had examined a thin section of the bone under the microscope, and observed the lacunæ and canaliculi in abundance; they were very well characterized indeed. He had seen no Haversian canals, but Dr. Gouley, who had made a very thin section, stated that he had seen it. He thought the specimen thus far, presented all the characteristics of true bone.

Dr. Markoe, in this connection, inquired whether it was the received

opinion that the reparative material was not converted into true bone. He did not refer to abnormal growths.

Dr. Wood, in reply, said that Van Biber, and others, held a contrary opinion to Mr. Paget. He thought it was equally well shown by others than Mr. Paget, that Haversian canals, etc., do not exist. And in the case under consideration, it would require great care in the examination, to determine positively that the characteristics of bony structure were present. It is possible, in this particular instance, from the lapse of twenty-five years, the material might be identical in its structure to bone proper. If there was no objections, he would like to continue the committee, and while upon this particular specimen, they could examine some others, and at some future time make a report in extenso.

Bright's Disease—Uræmia—Convulsions.—Dr. T. M. Markoe presented a specimen of Bright's disease, followed by uræmia and convulsions. The following is the history:—Louisa Byland, æt. 51 years, born in Sweden, a widow, having had one child, was admitted into the New York Hospital, for a simple ulcer of the right leg, which had existed three weeks. She had been in great destitution, been badly nourished, and her toes were frost-bitten; but at the time of coming in, which was March 7, she gave no indications of internal disease. The next morning, after having had the ulcer dressed, she had a rigor, lasting about half an hour, and followed by fever and sweating; after this, she went to sleep, and continued drowsy during the day, but could be easily awakened, and took some farinaceous food. Towards evening of the same day, she was seized with a convulsion, affecting the whole body, and both sides equally; there was loss of consciousness, and involuntary discharges from the bowels and bladder; the eyes were fixed; the pupils unchanged; the respiration labored, and attended with a hoarse gasping sound; there was no frothing at the mouth, nor any persistent rigidity of the muscles, the spasms being of a clonic character; the pulse was accelerated, rather full, but compressible; the skin of a natural feel. The convulsion lasted about five minutes, the patient then lying in an unconscious state, and breathing in the same manner, with coarse tracheal rales: after a half hour, she recovered from the profound stupor, but her mind was confused, and respiration stertorous; there was no paralysis present. These symptoms continued through the night and next day;—the pulse being about 100; the eyes having a vague unmeaning stare, the pupils unaffected. Deglutition could hardly be performed, the mental obscurity deepened into coma, the pulse grew more feeble, and the respiration more stertorous and labored, until, in about thirty hours from the time of the convulsion, she died. The treatment during the convulsion, consisted of the application of cold to the head, and sinapisms to the legs and epigastrium; afterwards, no active remedies were employed.

Autopsy, fifteen hours after death.—Subject rather plump; cadaveric rigidity present in moderate degree. Head:—The skull opened, the dura mater removed, and the brain exposed. A small quantity of serum flowed out, when the arachnoid cavity was opened, estimated at ʒi; the superficial veins were turgid with blood, and the capillary

branches distinctly injected. The pia mater was slightly opaque, being raised from the surface of the brain by serous effusion, especially where it passed over the sulcii; streaks of greater whiteness coursed along the borders of the larger veins, and some white patches, as if coagulable lymph were observed. The redness seemed to be greater on the posterior portion of the brain, no doubt owing to its dependent position, but with this exception, both hemispheres, and the base of the brain, were equally the seat of the injection and effusion. On slicing it, the tissue was found to be of natural consistence, and with no unusual vascularity. The ventricles contained a normal quantity of serum, and presented no morbid appearances. No blood clots, nor any softening could be found. Thorax:—The heart healthy, not containing clots, its tissue rather soft, and on the outside a rather abundant layer of fat, but no appearances of fatty degeneration; the valves were sufficient and pliable; it weighed ℥xij; the pericardium smooth and healthy; upon the right lung were found old pleuritic effusions of fibrin, covering nearly the whole surface, and binding it pretty closely to the walls of the chest; both lungs were of a dark color, crepitant and loaded with serum, which freely oozed from the bronchial tubes, when cut; no tubercles found, and no evidences of inflammation; this state of congestion existed through the whole of the lungs, and was not merely hypostatic. Abdomen:—The liver weighed four lbs.; was of a rather light color, its surface smooth, but somewhat mottled, there being spots of a light yellow color, and when a section was made through them, the color found to penetrate in some places to the depth of half an inch; when scraped with the knife, these spots did not afford any appearance of oil. The gall bladder was fully distended. The intestinal canal, the spleen, and pancreas, were not examined. The kidneys, which are herewith presented, bear evidences of serious disease; the right weighs ℥iij, the left ℥v.; the surface has a pale mottled aspect, spots of yellow intermingled with red, but the yellow color prevailing; the surface is also dotted with slight mammillated elevations; and when the capsule is torn off, which is done with considerable facility, the variegated hue, and the somewhat rough surface, are made more striking. On opening the kidneys, the section has a whitish yellow look, presenting the most marked appearance of fatty degeneration; the secreting and tubular portions seem to be blended together, the line of separation indistinct; although the cortical substance has undergone the greatest change, and the medullary part can, in some places, be readily distinguished. The pelvis of the right kidney has a natural appearance, while in that of the left, is some undue vascularity. In one of the calyces of this left kidney, is a body of about the consistence and color of hard fæcal matter; it breaks down readily under the fingers, and is about half an inch in diameter. In the bladder was contained about ℥vi of urine, of a pale amber color, and having numerous specks floating through it. At a boiling heat, a copious white curdy deposit was thrown down; and the same thing produced by the addition of nitric acid. The albuminous state of the urine, taken in connection with the pathological changes in the kidneys, clearly point to uræmic poisoning, as the cause of the cerebral affec-

tion and death. Of the patient's history, almost nothing is known; it is stated, that she has occasionally had rheumatism within four years, but no particulars can be obtained.

Hydrophobia.—Dr. J. C. Hutchison exhibited the brain and portion of spinal cord of patient, who died of *hydrophobia*, illustrating the small amount of disease in those organs.—Michael M., æt. 18 years; milkman; Ireland; was admitted into the hospital, this day, Saturday, March 7th, at one P.M., with hydrophobia, and presented the following history:—He stated that on the 29th of last December, he caught a stray dog, for the purpose of obtaining a reward of one hundred dollars, which the owner had offered for his capture. The dog bit him on the thumb and forefinger of the left hand, when he let him go immediately. The wounds healed readily, and nothing particular was thought of the bite until the day before his admission.

For about a week before the development of the disease, unusual drowsiness was noticed; frequently dozing while milking the cows. Two days before the disease was pronounced, he had pain in the finger and thumb which were bitten, but the pain did not extend to the contiguous parts of the hand and arm.

On Thursday night, 5th instant, he was noticed to be restless, and had some trouble with his respiration. On the following day (Friday), he attended to his usual duties, but did not feel well, and during the night, a dread of water and difficulty, or irregularity of respiration having been noticed, he was left in a room alone, the family fearing to come near him. On Saturday morning, (7th,) he was first seen by a medical man, (Dr. Garrison,) who recognized the disease, and sent him to the hospital. He had paroxysms of spasm of the muscles of the chest, fauces, and back of the neck, producing a sensation of choking or oppression about the throat and chest. The breathing was embarrassed, interrupted with frequent sighs, or a peculiar kind of sobbing movement, producing a sense of impending suffocation. When the paroxysms subsided, his mind was calm and collected, so that he could answer questions intelligibly. Whenever he attempted to speak, however, spasm of the fauces is produced, so that words are uttered with difficulty. His respiration during the interval of repose, when no effort is made to speak, is about twenty, and quiet. The paroxysms are brought on by anything that suggests the idea of water; a proposition to have a bath produced them, and likewise the sight of water poured from a pitcher on the floor, at some distance from him; on seeing the nurse enter the room with a pitcher of water, and approach him, he was thrown into the most painful agitation, and convulsive spasms, and implored that it might not be brought to him. Anything which causes the slightest agitation of the air, such as spreading the bed clothes, opening the door, or the entrance of a person into the room, will excite the spasmodic phenomena. They sometimes arise without obvious cause.

Pupils dilated; no injection of the conjunctiva; no cephalalgia; pulse 96; skin cool and clammy. The scars produced by the bite present the usual appearance of a healthy cicatrized surface. There is no undue secretion of saliva.

The inhalation of chloroform was ordered, so as to keep him gently under its influence, the quantity to be increased, when the approach of a paroxysm is observed. Half-past four, P.M.—Sulph. ether was given by mistake, instead of chloroform; it has had no effect in diminishing the frequency or severity of the spasms; indeed, they are now almost continuous, and of greater severity. About two o'clock, before the exhibition of the ether was commenced, he vomited freely a greenish fluid, and has vomited frequently since; eyes injected, pupils dilated, profuse salivation, mind wandering. Chloroform was given by inhalation; he readily came under its influence, the spasms entirely subsiding. It was soon noticed, that the respirations were becoming slow, and he expired almost immediately, apparently by asthenia.

An examination of the brain and spinal marrow was made forty-three hours *post mortem*. A small clot of blood, evidently quite recent, was found at the upper portion of the left hemisphere of the cerebrum, between the arachnoid and pia mater. There was slight congestion of the medullary portion of the brain, and the sinuses of the dura mater were filled with blood. The cranial nerves, the meninges of the brain, the cerebellum, medulla oblongata, and the spinal marrow, with its coverings, presented a normal condition. The period of incubation in the above case, was seventy-four days; duration of prodromes about one week; duration of the disease about twenty hours.

Uterus and Appendages.—Dr. J. C. Dalton exhibited the uterus of a healthy woman, presenting some points of interest respecting the process of menstruation. No history could be obtained, so we can not tell whether it had commenced or not. It appears to be a perfect specimen of an unimpregnated uterus, as the neck is long, and has a very slight dilatation; the external os is perfectly smooth, and appears to be but a dimple. The cervix is very nearly cylindrical, and very long in comparison to the body. In the cavity of the body there is a small quantity of bloody mucus, about the color and consistency of currant jelly. Opening the body, the appearances seem to show that menstruation is either just approaching, or it is at its termination; probably it has just begun, as there is no appearance of exfoliation. On scraping the mucous membrane, it is found to be smooth, and highly vascular, the vascularity most marked in the body. The ovaries present the following interesting appearance:—there is protrusion of one of the graaffian vesicles, which seems ready to burst; this is shown very handsomely on the left ovary on the posterior part of the organ. He presumes this is the graaffian vesicle that would have ruptured during the menstruation, which was about to commence. The concentration of vessels on the prominent part is quite distinct; on the other ovary can be seen the corpus luteum of the last menstruation; it shows the external appearance very well, it protrudes from the most convex edge of the ovary; and the remains of the rupture are seen; this probably was the corpus luteum of the last menstruation, about four weeks ago. Cutting through where the rupture seems to have been made, there will be found (he presumes) some remains of the original clot, as well as the corpus luteum itself. On inspection, it shows the

structure of a recent body of this kind, having a very dark coagulum in the middle, and a very thin bright yellow wall. From the appearance here presented there can be no question that it is about four weeks old, and that a new one is just about to commence.

Heart—Ductus Arteriosus just Consolidated—Foramen Ovale Patulous.—Dr. Dalton then presented the heart of a healthy female child, æt. 1 year and 9 months, who died of acute meningitis. It shows the ductus arteriosus just consolidated in a rounded cord, and the foramen ovale pervious, by means of a very oblique perforation from the right side to the left.

Gun-shot Wound—Removal of Ball—Death from Hæmorrhage.—Dr. Wm. H. Van Buren presented two specimens from a patient who died at the New York Hospital, the result of a gun-shot wound, received a little more than a month ago. He was about eighteen years old, was shot in the neck, and brought to the hospital the next day. At the time of his entrance, there was an orifice at the root of the neck upon the right side, posteriorly, corresponding to the point where the bullet had entered, and upon the opposite side of the neck, a little anterior and above the point of entrance, there was a good deal of emphysematous crackling, where a hard mass was touched, which seemed to indicate the position of the bullet. The emphysema was considerable at his entrance, but afterwards disappeared; he spit up a certain amount of frothy blood; he had paralysis of that limb for some time after receiving the shot, he could not move it, but afterwards did so, though with some pain; had a great deal of difficulty in breathing, not easy to account for; and, also, more or less constant cough, but this was not sufficient to account for the difficulty in breathing. On examining his chest, around the base of the right lung there was a good deal of flatness, the air did not seem to enter fully; there were no physical signs which indicated pneumonia or wound of the lung, beyond simple flatness; on the left side of the chest there was nothing abnormal. On surveying his trunk, as he lay in bed, his breathing was almost entirely thoracic. This flatness of the chest, around the root of the right lung, on weighing all the circumstances of the case, was suspectedto depend upon the liver rising higher than natural, and this, taken in connection with the absence of abdominal respiration, and the track of the bullet, led us to suspect lesion of the phrenic nerve; causing paralysis of diaphragm, and, as a consequence causing the liver to occupy itself farther up. The dyspnœa lasted for some four or five days, and afterwards gradually disappeared. It was also suspected that there was some lesion of the pneumogastric nerve, but the symptoms, however, disappeared about a week after his entrance. He continued to do well till the middle of the third week; all danger from hæmorrhage having past, it was considered safe to cut down for the bullet it was removed. The opening healed within a week afterwards. About the end of the third week, he was again seized with difficulty of breathing, attended with a sharp stitch in his side. On examination of his chest, it was made out that he probably had pleurisy, together with bronchitis. These continued, and were not controlled by treatment. There was an expectoration of pus, (this continued

more or less, from the very beginning,) of a strong odor, as if it was connected with a carious bone, and we suspected that the larynx might probably be in some way injured. About this time he was attacked with sudden hæmorrhage, from the orifice by which the bullet had entered. It was readily arrested by pressure, and recurred a few times afterwards, but not to any quantity. In the meantime there was difficulty of breathing, with evidence of disease of lung and pleurisy of the right side. These symptoms were accompanied by an increased pulse, and diminution of strength; when, rather suddenly, on the morning of the 7th inst., he was taken with coughing and gulping of blood, and within a minute after the house surgeon could get to the bedside, he died.

Post mortem—A catheter was introduced into the track of the bullet, and it was found that it had passed through the scalenus posticus muscle, behind the large vessels of the neck. It had struck the transverse process of the fifth cervical vertebra, and ploughed into the body of that vertebra; the anterior branches of the cervical nerves had been more or less involved, accounting for the pain down the arm, and the temporary loss of motion; the sheath of the vessels was not injured; the pneumogastric nerve was untouched; at the transverse process of the fifth cervical there were several fragments of bone; the vertebral artery was divided, and its extremity presented a patulous appearance, characteristic of ulceration; the vertebral artery did not enter the foramen, but passed in front, where the bullet had passed. On investigating further into the mode in which this blood came from this wounded or ulcerated artery into the trachea and larynx, we found the following appearances:—the lungs, being examined, showed that the air passages were more or less filled with recently coagulated blood; there was, also, clots in the œsophagus and stomach. The mode in which the blood got from the artery into the œsophagus, stomach, and trachea was accounted for in this way: removing the trachea and the œsophagus, behind the latter, and between it and the bodies of the vertebræ, was found the cavity of a large abscess, which extended from the commencement of the œsophagus, and terminated opposite the body of the sixth dorsal vertebra. The cavity of the abscess communicated with the œsophagus by a minute ulcer opposite the second dorsal vertebra; the blood went into the abscess and through this opening into the œsophagus. Besides this, we found dry pleurisy, with pneumonia on the right side, confirming the diagnosis of Dr. T. F. Cock. With regard to the termination by sudden hæmorrhage, a month after the wound is received, it is worth while to investigate the manner in which it was brought about. This artery could hardly have been wounded at first, though it might be possible. Dr. Markoe thought that the ulceration of the artery was caused by contact with the fragments of bones, the blood then filled the abscess, and then, through the small ulcer, it passed into the œsophagus, and so into the stomach and trachea.

Dr. Markoe, stated that during the progress of the case, there was dysphagia, which was more or less constant, particularly if any large substance was introduced into the œsophagus: six or eight days

before the hæmorrhage took place, pus was discharged through the mouth. This discharge of pus continued until the close. The abscess was three or four times the size of the trachea. He thought from the fact that the abscess being so near the posterior mediastinum, inflammation might extend to the pleura, and thus the occurrence of dry pleurisy be accounted for.

Dr. Wood, in connection with this, cited a case of osteoma of the right clavicle, the result of a fracture, which occurred in a relative some years ago. The physician who saw the case did not recognize the nature of the injury, he told him to put his arm in a sling and go about his business. When he saw him, he found a large deposit at the seat of the fracture; he had hiccup and dyspeptic symptoms, with great despondency, that is so common in dyspepsia. He came to him for surgical aid, and he proposed to exsect the clavicle, but the patient was not willing, and, in the course of a week, he returned home; the symptoms continued, and was so distressing to him, that he committed suicide by hanging himself in his barn. There was pressure on the phrenic nerve, causing irritation, which gave rise to hiccup, etc. Pressure on the brachial plexus caused partial paralysis. He said he should have thought that, in Dr. Van Buren's case, there would have been some symptomatic disturbance of the diaphragm.

Dr. Van Buren said that the phrenic nerve in his case, was not the seat of irritation, but the nervous supply was interfered with by division of one of its trunks; supposed this accounted for the symptoms that he had related.

Heart and Aorta.—Dr. Elliot, jr., presented an instance of hypertrophy of the heart and sacculated aneurism of the descending aorta. Of one of the specimens (the heart) he stated he was only able to compile the history from some notes on the case in Dr. Draper's private note-book. Francis Jones; æt. 28 years; laborer; unmarried; entered Bellevue Hospital on the 4th. of February 1857; habits temperate; no evidences of syphilitic or rheumatic taint; neither the history, nor the evidences of phthisis; troubled with cough and hoarseness of voice, but neither hæmoptysis nor difficulty in swallowing.

Some six weeks before admission he suffered from pain in the back, and was annoyed by the necessity for frequent micturition, a symptom which became subsequently aggravated; in about three weeks afterwards, œdema of the face and palpitation of the heart came on; and, in the early part of February, the feet and legs began to swell; urine twice examined by Dr. Draper.

February 4.—Urine found to be albuminous, with copious precipitates of ammonia.

February 15.—No albumen; specific gravity, 1024.

When this man came under my observation, a few days before his death, he was extremely feeble, and obliged to be constantly propped up in bed; the right leg and foot were so greatly swollen, that Dr. Hardaway scarified them, and evacuated a great amount of fluid; the incisions were followed by a mild attack of erysipelas.

The following physical signs, were all that I could recognize, and were noted at the time by Dr. Hardaway:—No prominence of the

præcordial, or sternal regions; impulse heaving in character, not marked in force; beat of apex indeterminate, apparently in sixth intercostal space, half an inch to the left of nipple; marked epigastric pulsation; pulsation, evident to the touch, in the supra-sternal fossa above the sternum; on percussion, the dullness of the præcordial region was found to extend to about an inch and a half to the left of the nipple, and from the nipple to the ensiform cartilage; resonance normal over the upper sternal and intra-clavicular regions; well-marked systolic bruit over the epigastrium, decreasing in intensity towards the apex; auscultation elsewhere over heart unsatisfactory; the patient died during the night of the 7th, with much dyspnœa.

Post mortem.—Lungs healthy; no pleuritic adhesions; large amount of effusion into both pleural cavities; no evidences of pericarditis recent, or of long standing; from two to three ounces of fluid within the membrane; heart hypertrophied, weighing from nineteen to twenty ounces; aortic valves can not hold water; aorta much dilated, much pouched toward the valves, and a small commencing sacculated aneurism at commencement of descending aorta; aorta covered over with atheroma in its various stages; a portion free from calcareous deposit, displaying oil globules and granular matter beneath the lining membrane; aortic valves nearly healthy, with exception of one atheroma near free border, and insufficient from dilatation of the aorta; innominata enlarged; walls of heart thickened and hypertrophied, flabby, but not the subject of fatty degeneration; papillary muscles, etc., partaking of general hypertrophy; right and left auriculo-ventricular openings enlarged, but valves apparently healthy; no fluid in peritoneal cavity; liver enlarged, and evidently fatty as was demonstrated by the microscope; kidneys normal in size; capsule readily detached, under the microscope; tubes found filled with oil globules and granular matter; some epithelial cells likewise contain oil. Dr. Clark, who had the supervision of the case in February, he believed had noticed some points in the progress of the case that were not evident at the time he came under his notice.

Dr. Clark remarked that, in February, his attention was first called to the case, he was examined with some care, and, at that time, he persuaded himself that there was no aneurism; but, examining a little time after, there was evidently a tumor of some sort underneath the sternum, which was evinced from the dullness across the sternum, for a space of three inches and a half; whether it was aneurismal or not he remained doubtful. He did not dare to pronounce it aneurism from the symptoms he noticed at that time. It was then remarked that the heart and arteries were beating with unusual force; the pulsations in the carotids, particularly the right, were uncommonly strong. There was no aneurismal murmur; no evident pulsations over the sternum. The artery could not be reached behind the top of the sternum, yet, there was difficulty of breathing and evident pressure upon the trachea, as well as obstruction to the return of venous blood; these symptoms appear mostly to have subsided at a subsequent time, under the observation of Dr. Elliot. The solution may be found in the rather unusual dilatability of the aorta; it may now be noticed that it is

unusually distensible and elastic; as the force of the heart's action diminished, it was probable that the tumor diminished with it. Still the actual aneurism observed in the specimen, though not very large, must have left some unusual dullness.

Hip-Joint Disease.—Dr. Elliot also exhibited a specimen of hip-joint disease, occurring in a boy, æt. 18 years, who died in the medical wards of Bellevue Hospital. He had hip-joint disease in early life, attended with considerable shortening of the left femur, with considerable motion; the shortening of the limb was about two inches; the position of the foot and leg was similar to the position in dislocation on the dorsum of the ilium; the capsule around the joint thickened, and the muscles were flabby and had undergone fatty degeneration; the skin around the trochanter bore evidence of the discharge of matter; the acetabulum filled up, and the head of the bone rests on the upper part of the acetabulum.

Cancerous Disease of Bladder and Prostate—Death from Hæmorrhage of Bladder.—Dr. Gurdon Buck presented the kidneys and bladder from a person of whom he could only give a partial history. They were removed from a gentleman, æt. 57 years, who died within a fortnight from the immediate effects of hæmorrhage from the bladder. He enjoyed, ordinarily, very good health, and was rather of a vigorous constitution. He saw him in consultation on Tuesday, and he died the following Thursday. Had been consulted by him, perhaps nearly two years before, for some trouble about his bladder; sounded him, having some suspicions of stone, none, however, was found. For nearly eighteen months he was dependent upon the catheter to draw off his water; there was no pain in the region of the bladder, kidneys, or urethra, until within a few weeks preceding his death, when he caught cold in the ears, on a journey from Baltimore soon after the holidays. He complained of pain in his right kidney, for which he was cupped and his bladder; and for some months previous to that, there was present other remedies used, which in a great measure relieved him of that trouble. For nearly three weeks, he had constant hæmorrhage from occasionally small clots in his urine. On the Tuesday when he was seen, he was shown the chamber nearly filled with what had passed him during the night; it was a deep red-colored, bloody fluid, and when poured off, showed that it was uniformly reddened, without any floating clots in it. The nurse informed him that the urine was thus constantly discolored for at least a fortnight preceding his death. Upon examining the bladder per rectum, the whole region of the prostate was very hard and unyielding; it was uniformly enlarged without any unevenness or irregularity of surface, though the right lobe was a little more salient than the left. The introduction of a catheter gave no pain, nor did he ever experience any pain, either in the bladder or urethra, when a catheter was introduced, which was carried on for a whole year; he had no local pain, except in the region of the kidneys, and was enabled to keep about the house. After his first visit he became prostrated, and died on Thursday morning. The opinion arrived at was, that the bladder was the source of the hæmorrhage, which he had regarded as depending upon the presence of a morbid

growth, probably cancerous; though, in this case, in the absence of pain, it differed from other cases of cancer of the bladder that had come under his observation.

Autopsy.—Examination restricted to the urinary organs. There were old adhesions fully organized, uniting together the intestines, chiefly the small. The right kidney somewhat larger than the normal size, the left considerably smaller and much shriveled; ureters were found to be adherent along their whole course, so much so that it was necessary to dissect them up; both ureters were considerably dilated without being thickened. Both kidneys, of natural color, were flabby and softened, in some portions to such a degree as to be almost pultaceous; the cavities of both were dilated, and contained some turbid urine. The whole bladder, except the summit, was found to be hypertrophied. On the mucous surface, around the orifices of the ureters, were small clusters of growths, somewhat prominent, of a creamy color, quite firm and solid to the touch; and at one point on the left side there was a bleb filled with a greenish fluid. Other deposits, of the same creamy color and firm consistence, were found imbedded in the coat of the bladder. The ureters were pervious. The muscular coat was everywhere hypertrophied, forming ridges and furrows. By an incision, the thickened indurated prostatic portion was found to be decidedly of a cancerous character, and, also, the growths observed on the mucous surface were of the same nature. The surfaces of the trigone and bas-fond were scattered over with ecchymotic patches. Dr. Clark had examined the kidneys microscopically, and would give to the society the results of that examination.

Dr. Clark remarked that the kidneys, softened as they were, had gained no new element, nor lost any. The microscope hardly revealed anything more than what appeared on examination with the naked eye. The cells were there, and appeared to be normal; so, also, with the fibres, which could be easily broken down; none of the results of inflammatory action were evident. He could tell no more after, than he could before, the microscopical examination. The prostate was pretty well filled with cancer of the cell variety; the cancerous deposits did not seem to reach far into the bladder; the hypertrophy seemed to have been produced by a vast increase of fibrous tissue; the cream-colored prominences he hesitated in pronouncing cancerous.

Sacculated Bladder.—The President exhibited a case of sacculated bladder, one of the sacs containing a calculus, and calculi of the prostate. William Brunner; æt. 53 years; single and dissipated; admitted February 9, 1857. About ten years since had gonorrhœa, which was relieved soon, but was followed by frequent desire to pass his urine. He had another attack five or six years ago, which persisted for a long time, and was followed by an attack of cystitis, which was treated in the New York Hospital. Since that time he has had to pass his urine frequently and with difficulty.

February 5.—Passed blood, and had much pain, which compelled him to give up his business.

February 9.—He entered the hospital with cystitis and retention of urine. A number six silver catheter was introduced without

difficulty, and a large quantity of pus was drawn off with the urine; the urine was albuminous, and contained granular casts. Subsequent to the introduction of the catheter the first time, he was able to pass a small quantity of urine with difficulty and pain. The seat of the stricture, which was not marked, was in the membranous portion of the urethra.

February 19.—The catheter was blackened upon introduction.

February 24.—The color of the urine, which was at first of a dark sherry, became of a dark smoky brown; it was offensive at first, but now became extremely so. His condition was typhoid, and he sank rapidly, and died on the 27th of February.

Autopsy, forty-eight hours after death.—Rigor mortis well marked. The cranial cavity not opened. Thoracic cavity:—Tubercles were found in small masses, scattered through the apices of both lungs, and much emphysema at the apices and free margins of both. Abdominal cavity:—The kidneys were large and flabby; the left weighed eight ounces, the right twelve, and was mottled on a portion of its surface; the surface of both was rather pale. On section, there was no congestion to note; under the microscope the tubes were granular. The pelvis and ureters contained a considerable quantity of urine, especially thel atter, which were distended, and their walls thickened and altered. The bladder was well above the pelvic brim, and filled, though the urine had been drawn off twice in the sixteen hours preceding death. The bladder occupied the pelvic cavity so completely that it was necessary to remove the pubic bones to take it out without injury. The rectum was shrunken and almost empty. The mucous membrane of the bladder was broken down, of a dark ash color, and, together with the urine, was extremely offensive. The bladder is divided into five sacs. The upper sac contained about ten ounces, and communicated with the middle sac by a circular opening about a half-inch in diameter, and a little to the left of the median line and in front; the wall of the upper sac is not much above normal thickness, but around the opening there is much thickening and induration; the wall of the middle sac is much thickened, and it is capable of containing from six to eight ounces; into it the four other sacs, the ureters, and the urethra open, and it is therefore the bladder proper. In the right wall, just without, and anteriorly to the opening of the ureter, are three circular openings, the largest of which, about a quarter of an inch in diameter, opened into a sac which protruded forward and laterally, and would contain about two and a half ounces. The other openings are smaller, and the sacs protrude but little. One of these sacs contains a calculus about the size and shape of a small almond. Just above these openings is a small cup-shaped depression, which seems to be the commencing stage of another sac. The prostate gland is atrophied, and is the seat of two irregular abscesses, with dark walls and surrounding induration. Among the contents were two prostatic calculi, one about the size of a mustard seed, the other about half the size of a small English pea; externally they are of a glistening bronze color. The renal calculus is composed

of the phosphate and carbonate of lime. Muscular fibres are wanting, except in the walls of the bladder proper.

Horse-Shoe Kidney—Calculi.—The PRESIDENT also presented a specimen taken from a subject by Mr. C. H. Osborne, in his private dissecting room. The history of the case, as far as disease of the kidney is concerned, he can not give, as the patient died of some other disease, and during the treatment there was no disease of the kidney recognized. Mr. Osborne, while examining the contents of the abdomen, discovered this beautiful specimen of a "horse-shoe kidney." The kidney on the right side is enormously enlarged: upon opening it, the ureter on that side is seen occluded. In the pelvis of the kidney there was a large quantity of pus, also, a small quarry of calculi, with processes extending up into the infundibuli of the kidney; they looked like stalactites hanging from the wall of a cave. The left kidney was normal.

DR. ISAACS examined the kidneys by the microscope, but they had been so long in alcohol, he could not express a decided opinion. He found some fatty cells in the dilated kidney, but none in the other. In regard to its granular character, from the fact of being in alcohol, he could form no judgment as to its value. He did not make an extensive examination, and expected to find uric acid, but did not succeed. Dr. Isaac's views were corroborated by Dr. Clark, who also examined it.

DR. VAN BUREN thought the kidney to be a specimen of that form called sacculated.

DR. WOOD observed that it did not present the appearance of a true sacculated kidney, inasmuch as there was no destruction of the organs forming the kidney. All the parts that went to make up the kidney were exaggerated; the infundibuli were larger than they should be, while in the sacculated kidney it loses its identity.

Regular Meeting, March 25, 1857.

Cancer Outside the Stomach.—DR. CLARK exhibited a stomach removed from a woman, æt. 54 years, who appeared to have, during her lifetime, cancer of that organ. On examination now, after death, it does not appear to have been, strictly speaking, cancer of the stomach; the cancer is situated on the outside, but produces symptoms of cancer of the pylorus. The lady enjoyed good health until about a year ago, when she began to feel some dyspeptic symptoms, and, occasionally, would vomit her food with a certain amount of ropy mucus. This was not constant. These dyspeptic symptoms gradually increased, but were not so severe as to induce her to call a physician for some time. For three months before her death, the symptoms became more urgent, vomiting more frequent, when Dr. Gunn was called to see her. He discovered a tumor, of considerable size, to the left of the epigastrium, and somewhat below the usual position of the pylorus; and noted that vomiting occurred at a certain time after eating. She gradually lost flesh, and up to this period (three months before death) she was able to keep about the house; now she became too weak to do this, and spent some hours upon the bed. A month and a half after that, the Doctor invited him to see her; she was thin, and a little œdema-

tous about the feet, with a dingy look of the skin, but no appearance of jaundice in the coats of the eye. Her chief complaint was vomiting soon after eating, and a certain amount of pain in the epigastric region. She had had a great deal of pain just below the inferior angle of the left scapula, with pain, also, nearly throughout the whole of that side; but the prominent symptoms were weakness and vomiting. At this time, there was nothing remarkable in the material vomited; some ropy mucus with the food; but, two days after that, she vomited this fluid in the vial, which, at the time it was brought to him, had almost exactly the appearance of the black vomit of yellow fever, it has become a little mouldy, and is somewhat changed, but even now, the resemblance is striking. Under the microscope it was found to be composed of the gastric cells, dark brown hematoidine in its various forms, together with the fluid materials of the stomach. Her history from that time on he has not obtained, inasmuch as he has not seen Dr. Gunn, who was kind enough to send the specimen. Probably the same continued to be vomited from that time to her death.

Post mortem.—Here is a part of the stomach itself; it is not very much diseased; the coats are in a slight degree thickened with fibrinous infiltration; but behind are numerous cancerous masses, that have the color and appearance of adipose tumors, but, examined carefully, are seen to be cancerous; outside is a little sowing of cancerous grains, with quite a disposition to vascularity; but the chief thing is, that the tumor appears here compound, and then, contrary to our expectation, it is not, strictly speaking, cancer of the stomach; but is so situated as to crowd the pylorus against the wall of the abdomen, and so interfere with the passage of the food. There were numerous little ulcers in the stomach, which probably was the source of the hæmorrhage; these ulcers, together with the thickened condition of the mucous membrane, was, perhaps, the result of the materials being retained in the stomach over long. There was no cancer of the mucous membrane, strictly speaking. One point more in the case:—This secretion on the mucous membrane, besides being made up of the usual viscid mucoid matter that is found after death in most stomachs, is pretty well loaded with the sugar vegetable, the torulæ; portions of it contain a very considerable quantity of the torulæ. The material that was sent him, vomited, perhaps, a month and a half ago, did not contain it, but it likely does now, from the appearance of the vegetable upon the top of it; if not, it is the pencil-like appearance that is common upon fluids containing albuminous matter. The fact that in the secretions of the stomach there was found a considerable quantity of that particular cryptogam, will, perhaps, be made somewhat more interesting by reference to this specimen of fluid, the material vomited by another patient having cancer of the pylorus, this latter contained an almost boundless quantity immediately after being vomited. The whole, or very nearly the whole, of this sedimentary matter is of that character; its color is of a brownish hue, and that arises from exactly the same material that gives the deeper brown to the other specimen; from the hematoidine, showing an escape of blood into the stomach from some cause or other. The occurrence of the torulæ in these two specimens

was of interest to him; inasmuch as he was not aware that it had attracted the attention of the profession. It is well known to the members of the society, that this plant is produced only in fluids that contain grape sugar; in these instances the quantity, particularly in the last, is surprising, the acid fermentation was going on before it was removed, from the odor that was obvious at the time. There was the odor of yeast present in the last specimen, and from that fact he supposed that torulæ existed.

Dr. J. R. Wood, in connection with these cases, referred to that of a gentleman, æt. 40 years, who had suffered some ten years from dyspepsia. He saw him in consultation with Drs. Minor and Cheeseman, shortly before death. He had every symptom of cancer of the stomach, and it was diagnosticated so by the physicians; had, also, the cancerous cachexia and vomiting, as in Dr. Clark's case; but there was no cancer of the organ, although it was situated behind, and adhering to, the stomach. The tumor in this case was felt, and it seemed to give positive proof as to the correctness of the diagnosis.

He saw another case of a lady who, during the past winter, had hemiplegia, she was treated for some months in Pennsylvania, and then in this city, and came under his charge for dyspepsia. The paralysis was in a good degree relieved, the symptoms were those of cancer of stomach. She had vomiting at a certain period after eating and became very much emaciated. The vomiting was so annoying that she really wished and prayed for death. In fact, for four weeks, food would remain on her stomach not longer than five minutes at a time, She was nourished by injections for four weeks before she died. On examination after death, no cancer of the stomach was found, but there was cancerous disease of the distal portion of the pancreas. There was an interesting case of a prominent man of this city, that came under the observation of Drs. Clark, Johnson, and himself. For some dozen years he had symptoms of dyspepsia, constipation, indigestion, and eructations after eating, with more or less pain in the stomach, usually relieved by diarrhœa. About three months ago, he examined him, and diagnosed the case as one of cancer of the stomach, or cancer of the liver. He had vomiting, but it was not violent; there was more or less tenderness to the right of the pylorus, with dullness at that point. He communicated his opinion to his friends, and a consultation was called for. Drs. Clark and Johnson saw the case. So slight were the symptoms of cancer, so far as the vomiting at that time was concerned, that the gentlemen were inclined to think that he was mistaken. The sequel proved that there was not only cancer of the pylorus, but, also, of the great curvature of the stomach. Dr. Clark, who saw the case early, felt the tumefaction; from day to day this swelling became softer, until at last, it could hardly be felt. The *post mortem* revealed cancer in the third stage, in the position as mentioned. The remedy that appeared to control the vomiting and sickness of the stomach was the hypo-sulphite of soda; it was relieved from the moment it was taken until just before death. It was suggested by Dr. Clark, who has used it in other cases with marked results. The mode of administration was four grains to ʒi of water, three times a-day.

Prof. Clark remarked that he and Dr. McCready administered this remedy to a physician from the West Indies, who was afflicted with distressing vomiting, and its effects were very pleasing. It was for a disease of the mucous membrane, caused by the presence of the sarcinæ ventriculi; it was the discovery of this that suggested the use of the remedy. He mentioned another case of vomiting in which no cancer of stomach was present, where there was no good arising from its use; and, also, in another case, attended with vomiting of blood, it had no control over the vomiting, but after the first dose there was no more blood discharged. Concerning the errors of diagnosis in cancer of the stomach, it must have been the lot of most physicians to encounter such cases, and he could recall two or three persons at least, now enjoying excellent health, who were supposed by him to have cancer of stomach years ago.

Heart—Lung—Effect of Gun-shot Wound.—Dr Finnell exhibited a specimen showing the effect of a gun-shot wound, consisting of the heart, a portion of one lung, and a portion of integument, of a young man, æt. about 22 years, who was shot about eight or ten days ago. The bullet entered between the third and fourth rib, passed across the base of the heart, carried a piece out of the pulmonary artery, and went through the left auricle. The ball was not found, though a careful search was made for more than an hour. In the pleural cavity of the left side, there was a large quantity of coagulated blood. The lung shows the perforation in its tissue: the wound in the lung is much larger than that in the integument. He died instantly.

Tubercles in a Monkey.—Dr. Peters exhibited the lungs, liver, spleen, and portion of the mesentery of a monkey which was brought from the coast of Africa last week. On making the post mortem, this condition of things was revealed:—The left lung was tubercular throughout its whole extent, firmly adherent; congestion was found in the other lung, with tubercular matter throughout its substance; the liver is tuberculous; the mesentery, also, gives evidence of tuberculous deposit. The spleen, when removed, presented a beautiful appearance.

Hip-Joint Disease at Fourth Month—Death from Hydrocephalus.—Dr. William H. Van Buren exhibited the head, neck, and part of the shaft of the two femoral bones of a child, æt. 2½ years, who died (in the fourth month of hip-joint disease) from acute hydrocephalus. It was interesting from the fact that it was rather rare to encounter a case at this point in its progress. He attended the child in consultation, and when first seen, he learned that the little fellow, who was healthy up to that time, had been complaining for six weeks of symptoms of hip-joint disease; he was fretful, could not sleep at times, and appetite capricious; he would not stand upon the leg, nor use it, nor allow it to be touched. The symptoms came on rather suddenly, and for some time it was hardly thought probable that it was a disease of the joint. Leeches were applied behind the trochanter, but without benefit; the leeches were repeated, but the second application was not more favorable than the first; he was, also, treated with syr. iod. ferri. His bowels were generally costive, and his dejections of a dark color;

this was noticed to be the case by the physician whenever he administered a dose of calomel, and on the night after taking the calomel he invariably slept soundly; in fact, this was the only remedy that seemed to be efficacious in producing sleep; the dose was two grains. No relief following the second application of leeches, a seton was put behind the trochanter, but no good result followed; the fluid ext. bark, with minute quantity of corrosive sublimate, was also administered, but this did no good; cod liver oil was then ordered, but with the same result. Finally, one day, the symptoms of arachnitis began to show themselves, and he died four or five days after.

Post-mortem.—Head:—There was thickening of the arachnoid membrane; at the base, some patches of flaky pus; there was an undue quantity of fluid here as well as in the ventricles; the fornix was softened, and presented a watery, soaked appearance Hip joint:—On dissecting off the muscles, there was pus in the bursa, between the tenson of the gluteus maximus and trochanter, not connected with the joint; on the internal aspect, toward the obturatur foramen, there was a point where the capsular ligament was lacerated, and pus escaped in the surrounding cellular tissue; in the cavity of the joint, the synovial membrane was thickened, and an increase of vascularity; the head of the bone was irregular in shape; the round ligament was so soft that a slight movement of the bone broke it; there were numerous soft patches on the cartilage of incrustation. The heads of both bones were removed, so that the general appearance could be contrasted.

Prof. Clark inquired whether the disease began in the bone structure, synovial membrane, or in the cartilage?

Dr. Van Buren thought it commenced in the synovial membrane, though he could not say positively, as he has not sawn the bone through. On looking at the section of the femur on that side, the bony structure is more rarified, as if from atrophy; possibly it was owing to the want of use.

Prof. Clark asked if there were any tubercles in the lungs?

Dr. Van Buren:—The lungs were not examined; it presented itself to him as a case of synovitis, in which the arachnoid became the seat of disease, in consequence of the similarity of tissue.

Dr. Ayres said that he had taken the liberty of passing the blade of a small knife through the head of the diseased bone. It passed readily through the cancellated structure, and it was quite soft, while in the sound bone, after passing through the cartilage, it was immediately resisted.

Stricture of Urethra—Perineal Section—Uramia—Prostatic Abscess.—Dr. Isaacs presented an instance of urethral stricture—prostatic abscess—perineal section—disease of bladder and kidneys. About three weeks ago, he was called to a patient who had been afflicted with stricture for about ten or twelve years; found him with a swelling corresponding to the course of the urethra behind the scrotum; it was large, tense, and hot; there was no sign of fluctuation. Chloroform was administered, and an incision made into the perineum, until he arrived at an abscess, which was evacuated together with a little urine; he was much relieved by the operation. Nothing particular occurred that

day, except that he made urine, toward night, through the wound. The patient continued to pass his urine in this way, partly through the urethra, and partly through the wound for about three days; was advised to submit to the perineal section, and after much hesitation, consented. Assisted by Dr. G. Buck, the operation was performed (the patient being under the influence of chloroform) by introducing a silver catheter down to the stricture. The incision was made upon the catheter, and after that was laid bare, a probe was passed through the stricture; then a director was passed and the stricture divided. A catheter was then passed into the bladder with difficulty.

The first incision was made on Saturday, but the operation was performed on Tuesday. He did very well after the operation, but in the evening, was very cross and irritable, and could not sleep. When seen in the morning, he was asleep; about three o'clock found him insensible, and it was very difficult to arouse him; he had symptoms of uræmia; suffering from partial suppression, some urine passed through the wound, and a very little through the catheter. This state of things continued until the evening, when the catheter was withdrawn, and cups and sinapisms were applied, but did no good; he continued in this condition until three or four in the morning, when he died.

Post mortem.—The kidneys were reduced to about half their natural size; the ureters very much dilated; and there was an abscess in each lobe of the prostate. The ureters were so large that, when blown up, they looked like small intestines; the bladder is three or four times thicker than natural. Pressing upon the prostate gland, pus came through the ducts.

The seat of the stricture seemed to be in the spongy portion of the urethra; one kidney was examined by the microscope, and it was found to consist of but very little healthy structure, or a thin section; where there ought to have been fifteen or twenty malpighian bodies, he could only find two or three, and only four tubes, and these were very much broken down. The malpighian bodies were very much altered in structure, and the walls of the tufts were much thickened, and a portion of it seemed to be wanting; the tubes were, also, filled with epithelial debris. It seemed astonishing that life could be prolonged so long with this state of things; the urine was tested, and contained albumen.

Spleen.—Dr. Ayres presented a spleen taken from a gentleman, 41 years of age, who died, he presumed, from a disease entirely disconnected with it; he was a very large and heavy man, six feet and three inches high. Three years ago, in riding, he was thrown from a wagon, and struck his left side against a stone wall; he had concussion, with vomiting of blood in copious quantity; he was brought home, and from that day he never was well. The symptoms developed were those of tuberculous disease, attended with repeated attacks of congestion of the lungs, pleurisy, and hæmorrhage, from time to time, together with copious expectoration; there was a large cavity at the apex of the left lung, and the whole lower portion was studded with miliary tubercles. The spleen, by its superior surface, was firmly connected with the lower surface of the diaphragm, and upon it is a copious exudation of fibrine, through which he made a section; it is exceedingly firm, and cuts

and feels like cartilage; the spleen was likewise attached to neighboring organs below, by bands of fibrine; the internal edge was attached to the left lobe of the liver. He thought that this hæmorrhage at the time of the accident, might have been occasioned by rupture of spleen, and so blood escaped into the stomach, which was firmly attached to it; the heart was large and fatty; the liver granular and enlarged.

NEW YORK ACADEMY OF MEDICINE.

REGULAR MEETING, APRIL 4, 1857, DR. MOTT, *President.*

ANATOMY OF THE PLEURA.

DR. CHARLES E. ISAACS, Demonstrator of Anatomy in the University Medical College, read an instructive paper on the Anatomy of the Pleura.

The object of this investigation was to determine the extent of the pleura above the clavicle, and its relations to important organs. Writers on anatomy either do not allude to the subject, or speak so vaguely, as to convey the impression that no definite knowledge exists in regard to it. Horner says the pleura extends higher at the head of the first rib than at its anterior extremity; according to Cruveilhier, the pleura projects more or less above that rib; Sharpey and Quain state that it extends an inch, or even an inch and a half, above the first rib. Harrison says when the lung is distended, the pleura may rise two inches above the first rib, etc., etc.

The statements of many other authors are given, all of which are equally indefinite, while in such works as the *Encyclopedia of Anatomy*, *Bourgery and Jacob*, *Sibson's Medical Anatomy*, etc., no mention whatever is made of the extent of the pleura above the clavicle.

Struck with the discrepancies on this subject among authors, and aware from repeated dissections of the great highth to which the pleura sometimes extends, DR. ISAACS was led to the careful examination of a large number of cadavers (one hundred in all), to determine, if possible, the superior boundaries of this investing membrane.

The method pursued was, to place the subject upon a firm table, and after exposing the thoracic cavity in the usual manner, by the introduction of one hand into the cul-de-sac formed by the pleura above the clavicle, its boundaries could be readily ascertained externally. Where this method failed, needles were passed from without inwards, at points where it was desired to obtain measurements, and their position in the cavity determined, by the fingers introduced internally.

It was sought to establish the following points:—

1. The hight of the sternal edge of the pleura above the clavicle.
2. The hight of its central portion.
3. The hight of its outer edge.
4. The distance of the sternal edge from the median line.
5. The distance of the outer edge from the median line.

In prosecuting this examination, it was discovered that the upper part of the pleural cavity did not always present a dome-shaped form, as described by anatomists, but that it sometimes forms cul-de-sacs, extending upward like the fingers of a glove; they are sometimes prolonged laterally, from the right pleura across the median line to the left side, and pass upwards between the bodies of the cervical vertebræ and œsophagus, or, between the latter and the trachea.

Dr. Isaacs presented several tables exhibiting the results of his investigations, of which we notice the following:—

Comparative highth and width of the pleura above the clavicle in the male and female, calculated from the measurements in forty-seven males and forty-seven females. The conclusions at which he arrives are, that the pleura is both higher above the clavicle, and wider in that situation, in the male than it is in the female.

The high extent of the pleura.—In one hundred cases, the pleura of the right side rose *two inches and upwards* above the clavicle in fourteen; on the left in four; on both sides in five; in all twenty-three, giving the proportion of nearly one in four having a high extent of pleura.

Low extent of the pleura.—In five of the one hundred cases, the pleura did not rise above the superior margin of the clavicle; being one in twenty having a low extent of pleura. The sternal or inner edge of the pleura on the right side extended across and to the left of the median line in eleven cases, the greatest extent being one and one-fourth inches.

These eleven cases necessarily gave the widest extent of pleura at its superior part, the average width being four inches. It is worthy of note that this projection of the pleura across the median line was never observed on the left side.

It was, also, generally noticed that, where the pleura extended high, the subject had a long neck, and the reverse was the case in short, and especially bull-necked, subjects; in twelve cases marked as having long necks, ten had a high extent of pleura; in eleven short-necked subjects, the pleura was very low in three, below the average in eight. By the shape of the neck, therefore, and probably by ausculation and percussion, it may be possible to determine pretty accurately in the living subject whether the pleura has a high or low extent.

The practical importance of this determination of the limits of the superior portion of the pleura are obvious. To the physician, it is important to know these facts in the practice of auscultation and percussion, and in the diagnosis of diseases of the apex and the lungs. To the surgeon, this knowledge is of great value in the removal of tumors, and in other operations about the neck.

Dr. Isaacs ingeniously suggests that cases of sudden death during operations about the lower part of the neck, from the supposed entrance of air into the veins, may be due to the opening of the pleural cavity. If the surgeon penetrated the neck two inches above the clavicle, it would have been thought that there was no danger of wounding the pleura, and yet the result of these measurements show that the pleural cavity could be opened at this hight. These facts

are, also, important in the prognosis and treatment of wounds in the neck.

In the second portion of his paper, Dr. Isaacs considers the surgical anatomy of the upper portion of the pleural sac, or its relation with the subclavian artery.

In its first division, or that portion of the artery lying within the scaleni muscles, the subclavian always rests upon the pleura. The artery has never been successfully ligatured at this point, though the operation has been performed nine times upon the right side, and once upon the left. The failure is due to the extension of the disease to the coats of the subclavian, and the proximity of the ligature to important anastomosing branches.

The second portion of the artery, or that lying between the scaleni, is, also, always in contact with the pleura. The ligature has been successfully applied at this point.

The third division, extending from the scaleni to the first rib, is that portion of the artery which is most frequently ligated, and is, therefore, relatively, of the most importance, although the subclavian in this part of its course does not rest upon the pleura, yet, when the pleura rises high in the neck, it carries the artery with it; in the twenty-three cases in which the pleura rose high in the neck, the artery was high in the third portion of its course, and rested upon the pleura for a considerable extent, several examples are given to illustrate this fact. A knowledge of this relation of the pleura to the subclavian artery at the point where it is most frequently ligated, is of great importance to the surgeon.

This interesting paper will soon appear in the transactions of the Academy.

PUERPERAL FEVER.

On recommendation of the *Section on Obstetrics*, the subject of puerperal fever was brought up for discussion by Dr. John W. Francis, Chairman of the Committee.

Dr. Francis said:—I find myself Chairman of the Committee on the subject of puerperal fever, and, thus appointed, am necessarily to open the discussion on that important disease. I shall do so with brevity, as I know not to what particular points the Academy purposes the investigation to be carried. This disorder is so minutely described and illustrated in books, that all who now hear me, must be familiar with its symptoms and its treatment. I have, therefore, little of novelty to announce. Its inflammatory character as a general fact, its rapid course in most instances, its great malignity under peculiar circumstances, are acknowledged truths. I will, on these accounts, as well as to save time, venture to affirm some things which, perhaps, may not be found in the pages of every author on puerperal fever. I am not willing that this disorder should be restricted in its seat, to inflammation of the peritoneal lining, thus nosologically denominating the disorder "puerperal peritonitis." The disease in many instances, involves the substance of the womb and the intestines, and even contiguous viscera. We are told the complaint often sets in several days after

the parturient condition is over. I have known it to assume the most malignant character within thirty-six hours after delivery, involving the womb, intestines, and even the bladder, and to terminate fatally with most disastrous destruction at the end of the third day. Upon examination, the autopsy has shown the womb contracted less than one-third of what it was in its full gravid state, its parieties, one and a quarter, or one and a half inches in thickness, the inner lining overloaded with flocculi. This condition has been brought about from a variety of causes, all leading to a depressed condition of the patients a bad habit, vitiated air, and the concurring causes which bring on the typhoid form of this fever. I am satisfied of its contagious nature, from the authority of Gordon, and from what I have seen both abroad and at home. I will not trespass by the detail of circumstances in support of this view, at this time. I hardly think, a member of the Academy of five years' practice is among us, who has not seen this truth verified in hospital practice, perhaps, too, in the occurrence of puerperal fever in its sporadic form. In this age, when contagion is by many discarded as a cause of disease even in scarlet fever, and in measles, we must expect that such incredulity would reject its influence even in the Lying-in Hospital. I will add no more at present, but wait upon the discussion, for I apprehend that it is especially on this controverted subject of the specific character and contagious quality of puerperal fever, that the arguments of members will be expended.

Prof. Joseph M. Smith, read an elaborately written paper, on the *Causes and Modes of Propagation of Puerperal Fever.*

The views of medical writers are divided as to the pathology of puerperal fever; one class holding to the opinion that the disease is an idiopathic fever *sui generis;* and the other that it is essentially a local inflammation, taking the form of peritonitis, metritis, metro-peritonitis, or uterine phlebitis; the former of these opinions have lately been revived, and, with the exception of imputing to the disease a specific contagious attribute, has received the support of able contributors to obstetric pathology.

The opinion of authors is also divided in regard to the nature of the morbific agent; one class contending that it is a specific contagious principle, elaborated within the body by a specific vital process; the other, that it is a miasm or poison, formed by the chemical reactions which take place in the exhalations, and other matters excreted or discharged from the human body, and retained in close apartments.

In rejecting the opinion that puerperal fever is a disease *sui generis*, we must, also, reject the idea of its propagation by a specific contagion. That the disease is communicable, there is no doubt; but it is so through the agency of a poison generated in a mode totally different from that peculiar to small-pox and measles.

Prof. Smith, then proceeded to consider the *Special Etiology* of puerperal fever, under the following heads:

1. Causes of puerperal fever in public institutions.
2. Origin of sporadic or spontaneous puerperal fever.
3. The miasm of typhus fever produces puerperal fever

4. The miasm of puerperal fever produces typhus fever.
5. The miasm of erysipelatous patients produces puerperal fever.
6. The miasm of puerperal fever produces erysipelas.
7. The emanations from bodies, examined after death, produces puerperal fever.
8. Puerperal fever and erysipelas are generally concomitant epidemics.
9. Are puerperal fever, erysipelas, and typhus, one and the same disease?
10. Extreme susceptibility of puerperal women to the effects of idiomiasm.

The conclusion at which Prof. Smith arrived, after full consideration of the above propositions, are,

That puerperal fever sometimes arises from the noxious air generated from the foul discharges of puerperal women in crowded and ill-ventilated lying-in hospitals; sometimes from the emanations of patients laboring under typhus fever, erysipelas, and gangrenous diseases; sometimes from the emanations from the human body dissected after death; and sometimes from the absorption of putrescent matters lodged in the uterus and vagina after parturition.

It would appear, also, from this inquiry, that the miasms of typhus, erysipelas, and puerperal fever are severally capable of producing any one, or all, of these diseases; and that they may attach themselves to the persons and clothing of mid-wives and physicians, and thus be transported from these sources, to the chambers of lying-in women. The more ordinary form of disease, induced by the febrific effluvia in question, is typhus and its modification, typhoid fevers; while puerperal fever, and hospital erysipelas, are but varieties of that disease, taking their forms from the peculiar predisposing conditions of system.

The following facts are important,

1. Let the physician take care. 2. When it breaks out in a hospital, thorough resort to disinfecting agents and ventilation, and dispersion of patients is necessary.

Prof. Clark said:—I am not so well prepared this evening to speak upon this question as I hoped to have been. I have not had the time to study my own papers; the subject has occupied my thoughts for twenty years, and commands my earnest attention at this moment, for since the last meeting of the Academy, the disease has appeared at the Bellevue Hospital; two patients have already died of it, and seven are now under treatment. I name this incidentally, as I may allude to it again in speaking of the treatment.

With reference to the points that have been made thus far in the discussion, I have little to say; I am obliged to concur with Drs. Francis and Smith, in regard to the communicability of puerperal fever, whether by miasmatic infection, or by contagion, is a matter of far less importance than the fact that it can be conveyed by the physician. The mode of the conveyance has excited a great deal of speculation; but the poison has never been isolated. It is not known whether it is im-

bibed by the cuticle; or, as Tyler Smith has said, is breathed into the lungs, and through them, entering the blood, and thence coming forth as a halitus; or, whether it is carried in the clothes or hair.

2. As to its connection with typhus. At the present time, we have puerperal fever at Bellevue; but there is not a single case of typhus fever in the whole house; either in the male or female division. There has been no case on the female side for two months, and none on the male side for one month; and in the whole house, there have been only five or six marked cases during the whole of the last six months.

The epidemic, of which Dr. Vaché has given an account, in 1840, perhaps the most severe that has ever visited the Institution, was not preceded, attended, or soon followed by any marked increase of typhus or typhoid fever. The same may be said of the puerperal fever in 1851 and 1852. On the other hand, the severe typhus epidemic of 1846-7-8, came and went without any unusual occurrence of puerperal fever. Dr. Reese, will, I have no doubt, bear testimony to the latter statement. It would seem then, that at Bellevue there are no fixed relations between these diseases.

I am aware that puerperal women have been placed in beds near those who have had typhus fever, and have died of puerperal fever; but unless these cases are adduced in sufficient numbers to balance the cases on the other side, they may be but coincidences.

No relation has been established between the typhus and puerperal fevers, as far as the City Inspector's reports are concerned. We have these reports from the year 1804; but from the year 1804 to 1829 or 1830, the number of deaths from these affections was annually too small to be of much value. It is impossible, without access to the City Inspector's office, to make an exact comparison from these reports; as all the persons dying from puerperal fever, "childbed," "convulsions," and from "abortion," are all classed under one head. But as those from convulsions and abortion bear pretty nearly a fixed relation to the population, we may assume that the fever causes the principal changes in the number from year to year.

The following figures will show the number of deaths from puerperal diseases, and from typhus and typhoid fevers, from 1830 to 1853:—

In	1830,	we had	59	puerperal,	and	53	typhus deaths.
"	1831,	"	36	"		54	"
"	1832,	"	60	"		84	"
"	1833,	"	39	"		62	"
"	1834,	"	61	"		106	"
"	1835,	"	61	"		47	"
"	1836,	"	76	"		117	"
"	1837,	"	64	"		338	"
"	1838,	"	40	"		104	"
"	1839,	"	29	"		97	"
"	1840,	"	66	"		144	"

And so on, till we come to the year 1847, which must be regarded as the *test* year.

In	1847,	we had	94	puerperal, and	1396	typhus deaths.
"	1848,	"	147	"	948	"
"	1849,	"	138	"	602	"
"	1850,	"	152	"	472	"
"	1851,	"	166	"	1104	"
"	1852,	"	155	"	758	"
"	1853,	"	147	"	541	"

The numbers will sometimes be found to increase together; but the proportions in which they increase and diminish, show very few analogies between the two diseases.

Prof. Clark here drew a contrast between the symptoms, duration, and lesions of the two affections, showing the wide differences which exist between them.

The relation of puerperal fever to erysipelas, at Bellevue, has long been remarked. My impression is that there *is a relation* between the two; this is the prevailing opinion there. A few days ago, when the puerperal fever broke out there, it was ascertained that erysipelas was prevailing to some extent in the surgical wards.

In looking over the City Inspector's report of deaths for fifty years, it is found that from 1804 to 1830 the ratio of mortality from these diseases is very variable; the numbers are, however, too small during this period to be of much value, but for the last twenty years, when the number from each is considerably increased, it will be remarked that they show a decided tendency to increase together, and to diminish together, the ratio of mortality varying but little.

Hospital Gangrene differs from erysipelas probably more in its appearance and its results than in its nature. It is, perhaps, erysipelas intensified, and somewhat modified in the tendency to spread over the body. But as the two occur under the same circumstances, and as they certainly have close alliances, what has been already said of one can hardly fail to be true of the other.

Pathology.—I am compelled to withhold my assent to the doctrine that this is a *fever*, and a fever only, under any circumstances. I have not yet seen a single puerperal woman die of an acute febrile disease of short duration, such as is usually called puerperal fever, in whom there could not be found, on post-mortem examination, some lesion of an *inflammatory* character. Dr. Gooch has expressed the opinion that this *fever* may occur *without lesions*. He says: "The experience of the last few years has taught us about peritoneal fevers (he prefers to call them peritoneal rather than puerperal) that they occur in their most malignant form and leave few or no vestiges in the peritoneum after death." Dr. Simpson has expressed the opinion that the disease occurs occasionally without lesions. "Occasionally," he says, "though very rarely, no inflammatory lesion whatever can be found in bodies of patients who have died of puerperal fever. Dr. Locock has observed several cases of this kind, and in the practice of the late Dr. Beilby I saw one very marked and rapidly fatal case of puerperal fever in which my colleague Prof. Bennett was unable to detect anywhere in the abdomen or uterus, its appendages or vessels, any trace

of inflammatory action or effusion." Tyler Smith regards it as, in some cases, an *inflammation*, and in others a fever. I would say that puerperal fever has *four principal* lesions, and many of a secondary character.

1. Inflammation of the peritoneum.
2. Inflammation of veins of the body of the uterus.
3. Inflammation of lymphatics of uterus, veins not involved.
4. Inflammation of inner surface of the uterus or endo-metritis.

I believe in every case where a full examination is made—I think in every case—one of these lesions will be found. In all cases where I have had an opportunity of examining, one has been found.

The first variety is the most common. It is found in the different stages of congestion, effusion of lymph, or the effusion of pus. One or other of these conditions is found in the great majority of the cases which I have examined.

2. The number of cases in which *inflammation of the veins* exists is small. I have met with it in a few cases. Cruveilhier, in the Hospital Maternité, met with it in very few cases; seven or eight in two years and a half. I have here the report of two cases which illustrate this form of the disease. The general characters of this lesion will be better understood by the examination of these plates. (From Cruveilhier's *Pathological Anatomy.*)

3. *Inflammation of the Lymphatics.*—This is more common than inflammation of the veins. It is very often seen, to a limited extent, as here, in the broad ligament under the fallopian tubes. It is very often met with in this limited extent when the chief lesion is peritonitis. This fact was first pointed out to me by Dr. Markoe, of this city, some years ago. At that time, however, it was supposed that it was the veins of this part that were the seat of the inflammation, but, on careful examination, it appears to be in the *lymphatics*, and not in the veins.

If Cruveilhier can be trusted (and I have met with confirmations of his opinion), when pus is met with, and can be traced to the lymphatics, the pus does not enter the circulation so as to destroy life, the lymphatic glands seem to filter it out, and prevent its transmission into the circulating blood. At least, pus can be traced in these cases into the lymphatic glands, but if the gland itself is not disorganized by the purulent deposit in its structure, it can not often be found in the tubes going off from the glands.

4. The next form of disease is that which Gooch, Simpson, and Tyler Smith regard as independent of anatomical lesion. The view which I wish to present of that class of cases is that they are probably all, in reality, pyæmia, resulting from inflammation of the inner surface of the uterus In order that what I have to say on this point may be better understood, we will consider one or two points in the anatomy of the uterus after parturition. I have here the uterus of a woman who died of pleurisy, ten days after delivery, in the practice of Dr. Griscom. I have not thought proper to bring into this room, where there are so many practicing accoucheurs, a fresh specimen of the disease in question, though I could have done so. In 1840, it

seemed to me I could demonstrate that there was no lining membrane to the uterus, but that the uterine sinuses opened on the free surface of the uterus. These open mouths can be seen in a good light in this specimen, entirely uncovered by any membrane. I can pass this instrument (a probe) into one of these open mouths, and out of the cut surface of the uterus, and if I was disposed to make a patient dissection, I could trace them into the veins going into the general circulation.

These sinuses remain open, or rather openable, for at least ten days. Why do they not bleed ? I do not know as any one has made an exposition of it. If I see it correctly, these sinuses are guarded by a valvular opening like that of the ileo-cœcal valve. There are two folds, the longest is the innermost one; through this inner fold there is a muscular fibre well marked, and, also, a smaller muscular fibre running through the shorter lip; these muscular fibres are continuous with the muscular fibre of the body of the uterus; when the muscular fibre of the uterus is well contracted, the shorter lip is drawn down on the inner one so that no blood escapes. When the muscular tissue is relaxed, the mouths open in this way (illustrated by two pieces of paper, the one overlapping the other, like the two parts of the ileo-cœcal valve, and the ends approximated) thus it is that bleeding occurs when the uterus is relaxed, and hence the necessity of having the uterus contract to prevent hæmorrhage.

If the open body of one of these sinuses be lifted, a sort of sac will be found one-sixteenth of an inch or so in depth; and, looking toward the wall of the organ, another little mouth, sometimes two or more; whether that has a muscular fibre I am unable to say.

Now, sir, the point I make, is this :—Inflammation of the inner surface of the uterus is, also, inflammation of the valvular mouths of the uterine sinuses, since they are really a part of this inner surface; hence endo-metritis, as it seems to me well to denominate it, is of necessity a limited phlebitis, and inflammation of this inner surface of the uterus is of common occurrence, in one or other of its forms. Cruveilhier has described it as attended by an exudation which is soft, vascular, and areolar, the meshes of which are filled with blood clots. I have seen the exact copy of what he represents in Plate VI, of Book 4; and can state that the singular appearances there illustrated are due to fibrin, pus, and blood; the first forming a velvity surface on the interior of the uterus which holds in its fibres the other two, and that there is no proper vascularity in this exudation; it is nothing more than one of the least frequent of the results of endo-metritis. The more common results of the inflammation, are exudations of a creamy consistency varying in color from a pale pink, through a brick-dust to a brownish red, or saneous hue, with or without a firmer fibrinous layer, in contact with the uterine surface; in rare instances the color is the dark green, represented by Cruveilhier.

When this endo-metritis exists with the symptoms of puerperal fever, though peritonitis be absent, and though pus be not found in the lymphatics or veins of the uterus, yet we are not at liberty to infer that the disease is a fever and nothing else. Here is a source of

purulent contamination. That pus is not found in the veins is not proof that it does not exist in the circulation; formed within the mouths of these sinuses, it would be readily washed into the circulating blood and produce the symptoms of pyæmia. Indeed, the proof of such contamination I have seen in the deposit of pus within the tissue of the liver.

I do not mean to say these four lesions are independent of one another. I do not mean to say that where there is found lymph effused, where there is peritonitis, or where there is inflammation of the lymphatics, there is no endo-metritis; for this endo-metritis is found in almost all cases; it is very rare for endo-metritis to occur without other lesions; again, it is not common for the neck of the uterus to have the same change that is found in the body, for the neck will often be found healthy, while the body is changed; this shows that the neck is subsidiary, and does not perform the same functions as the body, or, at least, is of a different structure. I have here a summary of all the additional lesions I have noticed as far as I am able to judge.

1. In most cases the fallopian tubes are found more or less filled with pus. 2. It is very common for serous membranes to be involved; the pleura is rarely free from hyperæmia; the pericardium is often injected; the stomach is almost always thickened and softened if not of a red color; the intestines are more or less hyperæmic, and hence the diarrhœa, which is more common than in other forms of peritonitis; the spleen is not commonly changed, except where there is some complication; the kidneys are not involved in the diseased action, at least they do not give any evidence of being involved; the brain is almost always implicated, there being fluid in the cavities, and the vessels of the brain bleed freely when cut. My own researches do not enable me to demonstrate any very striking changes in the blood, it is coagulated in the heart and larger vessels.

The larger veins are often stained by the coloring matter of the blood, after death; in one case, the autopsy was made one hour and a half after death, in order to see whether this staining was before or after death, no stains were observed; where the autopsies have been made within six hours after death there have been no stains. We can not demonstrate those changes in the blood which nature exhibits. In this respect, pathology is far behind nature. The graaffian vesicles are often of a muddy color, as if stained with pus; the ovaries are frequently infiltrated with serum, sometimes with pus. The primary lesions are in the organs of generation; the secondary are in the blood, and are found, indeed, in almost every organ of the body.

Dr. Reese remarked that a law should be enacted to prevent persons from attending on puerperal women, after attending cases of erysipelas, hospital gangrene, or autopsies. He had never seen a case which justified the view of this disease being contagious. He had not found local lesions sufficient to account for its fatal results; had twenty-nine cases in the month of March, while in charge of Bellevue; and, in the first five, puerperal fever came on in one to four hours after confinement. He gave the wards up to an assistant, who had five cases in two days and two nights; this satisfied Dr. Reese, that he had not

communicated the disease, and he again resumed the charge of the wards; he lost five out of twenty-nine cases. Phlebitis and toxemia occurred in two; he believes the disease to be epidemic. We have had illustrations here; when it prevailed along the east and west sides of the city, while in the northern part, it was scarcely heard of.

PROF. SMITH said he would like to make an inquiry of Prof. Clark, as he did not himself enter into the pathology of the question, except to say, that the disease is a fever, and not a phlegmasia, and that the lesions which are found, are but complications. Prof. Clark does not discriminate between typhus in males and typhus in females. If he had excluded the typhus in males, perhaps the results would have been more equal. This exclusion of the males would alter the result.

These statistics are liable to lead us astray, unless we exclude the circumstances that modify the disease. I did not attempt to identify the diseases, typhus, erysipelas, puerperal fever, etc. I put it in the form of a query, in attempting to explain why typhus occurred, and puerperal fever did not. The legitimate and ordinary form of fever is typhus; where there is nothing to produce a modification, typhus and typhoid are similar idiopathic fevers, connected as one and the same disease, but meteoration at certain seasons, especially affects female constitutions, and under this influence, another form of disease is produced.

Rokitansky regards typhus and puerperal fever, as incompatible. But there was one case in Paris, where the intestinal lesions were demonstrated in a case of puerperal fever.

I have adopted the view, that this is a fever, and the local lesions are but complications. According to Prof. Clark, however, there is no case in which some lesion does not occur. Professor Ossiander was the first to notice cases without lesion. Dr. Locock says, such cases are rare, yet they do occur. Dr. Bennett examined a case minutely, in which not the slightest lesion was found. Admitting endo-metritis to exist in all cases, it does not, to my mind, prove that this is not an idiopathic fever. Are the lesions sufficient to destroy life as rapidly as we see it? Some secret poison must be at work in the blood, poisoning the patient. When Dr. Reese related the case of Dr. Forrester attending his patients, I was struck with its analogy to the cases where several physicians attended a case of erysipelas, and afterwards attended puerperal women, who suffered from the disease.

PROF. CLARK.—I will cheerfully answer Prof. Smith's inquiries. As to typhus occurring with puerperal fever in females, I am not able to give any additional facts. We know that typhus fever takes its full proportion of females,* and in epidemics more females are lost, because females are more about the sick. I know of nothing in the history of New York which would take epidemics out of this rule. In the severe epidemic of 1847, the number of deaths among females fell somewhat short of that among males. I can, if necessary, obtain the statistics on this point, but I believe the facts will be found substantially as I state them. Am glad Prof. Smith has given me an opportunity to explain a

* See BARTLETT *on Fevers*, 4th Ed., pp. 126 and 253.

a little more fully the purport of some of my remarks. I suppose I was understood to say that endo-metritis has been observed by every one, though the name is, perhaps, here used for the first time. What I intended to say is this, that I have seen, I believe, the cases which Gooch, Simpson, and others describe as puerperal (or peritoneal) fever, without lesions, and have never failed to find the evidences of endo-metritis. I did not intend to express the idea that this limited amount of inflammatory action could of itself, by the force of its local irritation, produce this terrible fever, and destroy life so rapidly, but that this inflammation is a purulent contamination of the blood, in manner already explained, and that the patient dies, not of endo-metritis, but of pyæmia. I have here a case reported at great length, in which death occurred after six days of illness. There was no peritonitis, no inflammation of the lymphatics or veins in the substance of the uterus; but there was endo-metritis, attended by a gruel-like exudation, of brick-dust color, which contained pus, fibrin, and blood. The tissue of the uterus, to a very minute depth from within outward, was stained of a reddish brown color. But the most important fact was that the liver presented numerous yellowish points, which, on microscopic examination, were found to contain pus, and in the center of each one of these points was a capillary vessel; this was, in all probability, a secondary deposit, and the endo-metritis was the spark which kindled the fire. Thus I am led to suppose it must be in other cases, where this lesion has been overlooked. Not that there are secondary deposits in each case to testify to the violence of the disease—for these are rare—but that there is a true pyæmia. A case of otorrhœa, with infiltration of pus into the jugular vein, and death in five days, was adduced. Many of these cases are rapidly fatal, others are not. I do not wish to be understood as excluding from this disease a febrile element, for that it unquestionably has; but, so far as my observation goes, it is accompanied by, if not dependent upon, a local lesion. I saw the erysipelas that prevailed throughout the country ten years ago; it began with a febrile movement. The febrile movement was a part of the disease, and preceded it. There is one point that is worth alluding to, viz., the absorption of the decomposed element in the uterus; this may be so, but I suppose the great cause of death is pyæmia.

Dr. Cock inquired of Prof. Clark if his investigations had been carried any farther than the appearances after death. Has he made any investigations, in the ordinary discharges of the lochia, whether they do not contain pus? Ferguson, many years ago, called these secretions pus, and he believed the veins of the uterus were the sources of the poison. Puerperal fever manifests itself, also, in a minor manner in phlegmasia dolens. I saw, with one of my Bellevue friends, one of these cases; she was then unequivocally in puerperal fever from phlegmasia dolens; it was a few hours before death.

Prof. Clark replied that he had appreciated the importance of the fact referred to in Dr. Cock's first question—had used such opportunities as he had met with to ascertain whether pus is produced in the uterus in other fatal puerperal diseases. In three or four cases of

convulsions he had not found it. Second, the contamination from purulent inflammation of the veins is not a case of the class falling under puerperal fever; it is allied to phlebitis in other parts of the body. A married lady who, it was thought, was threatened with convulsions, was bled; red lines followed from the point of venesection; she coughed, and had bloody expectoration, and, if she had lived long enough, would have expectorated pus, from the formation of metastatic abscesses in the lungs. These cases are therefore excluded.

(To be continued.)

BELLEVUE HOSPITAL.

Cases of Abscess of the Liver. Reported by JNO. C. DRAPER, M.D., House Physician to Bellevue Hospital. Service of DR. ALONZO CLARK, by whom the morbid specimens were presented at a meeting of the Pathological Society.

Case 1.—*Dysentery—Abscess of the Liver—Pulmonia—Death—Autopsy.*—Philip Jochune; German; æt. 38 years; tailor by occupation; admitted February 30, 1857; of intemperate habits. When he came in, he complained of dysentery and pain in the right hypochondriac region; his chest was carefully examined, but did not yield anything satisfactory, except a peculiar squeaking systolic murmur, heard most plainly at the apex; percussion over the liver caused considerable pain.

He stated that he had been troubled with dysentery and vomiting for eight days, and that three days before admission, he had a chill which lasted some time, and was followed by some little cough, but no expectoration; about the same time, there began to be a slight yellowish discoloration of the skin and conjunctiva, and some pain in the right shoulder.

As nothing of any moment was discovered in the chest, the case was regarded as one of simple dysentery, with some congestion, and, perhaps, inflammation, of the liver. He was, therefore, ordered to take a dose of castor oil, and thirty minims of laudanum, to be followed by three-grain doses of ipecac every two hours; under this, he seemed to improve, and the next day the evacuations became less frequent and painful.

February 5.—Patient was not so well as on the previous day; pulse 84; respiration 20; no cough, expectoration, or dyspnœa; pain over the liver much less; the chest was again examined, when there was found to be a sub-crepitant rhonchus over the whole thorax, with dullness, bronchial respiration, and bronchophony over the middle portion of left lung; it was also thought that there were signs of pneumonia at the right base, but they were not at all satisfactory. In the afternoon, patient began to fail rapidly, and stimulants were freely given, but he continued to sink, and died the next morning at ten o'clock.

Autopsy, thirty-eight hours post mortem—Rigor mortis well marked; body well developed and in good condition; no marks of ulceration or injury on any part of the body. Cranial cavity:—Not examined. Thoracic cavity:—There was a small spicula of calcareous deposit on

the posterior curtain of the mitral valve, which had given origin to the peculiar systolic sound noticed; with this exception, the heart was healthy. The lungs were bound down by old adhesions, and presented here and there cicatrices, marking the position of past tubercular trouble. On making a section through the right lung, there was found to be pneumonic consolidation of the lower lobe; and, scattered through the whole organ, there were about a dozen small masses of tubercular deposit, varying in size from that of a pea to a marble. In the right lung, there was at the point where the physical signs seemed to indicate pneumonia, a solid mass about the size of an orange, and spheroidal in shape. Dr. Clark thought that it probably was an apoplectic mass; but, under the microscope, it showed cells which resembled pus or pneumonic globules that had become shriveled up, and on the addition of acetic acid, the triple nuclei were well developed. Abdominal cavity: —The liver was twice its natural size, slightly congested, and the peritoneal covering of the right lobe was coated with recent exudation, in which minute arterial capillaries ramified; the substance of the organ was healthy, with the exception of numerous small abscesses, which were scattered here and there, but mainly in the left lobe; the largest of these abscesses was three quarters of an inch in diameter. About the caput coli there was some little arterial injection, which extended over a space of ten inches, while at the lower end of the intestinal tract, from the anus nearly up to the sigmoid flexure, the mucous membrane was intensely inflamed, and dotted here and there with minute spots of ulceration. The kidneys were very large and weighed together twenty-five ounces, one being twelve and the other thirteen ounces; they were somewhat congested, but there did not seem to be any other sign of disease; the spleen was, also, very large, being four times its natural size; the other organs were healthy.

Case 2.—Dysentery—Abscess of the Liver—Peritonitis—Death —Autopsy.—Patrick Hart; widower; æt. 40 years; born in Ireland; laborer; admitted January 29. When he came in, he stated that he had been suffering for some time from dysentery, but whether it came on with diarrhœa, or not, could not be ascertained, as he gave very contradictory accounts concerning himself. At the time of admittance, he was having about eight evacuations in the twenty-four hours. He was ordered to take a dose of castor oil and laudanum, to be followed in the morning by fifteen drops of laudanum, after each passage.

February 1.—Patient was having from four to five evacuations a day; he did not complain much, and was up and about the ward.

February 4.—Was not so bright; tongue coated; had had a very slight chill the night previous; pulse 80; respiration 21; countenance anxious; his chest was examined, but gave no evidence of disease; there was no jaundice or discoloration of the conjunctiva, or other symptoms indicating trouble about the liver.

February 6.—Patient to-day began to complain of tenderness and pain over the whole abdomen; there was, also, some tympanitis on percussion; tongue loaded with a heavy dark brown fur; evacuations, four in twenty-four hours; as peritonitis was suspected, he was put on

the opium treatment; the opium was continued, with care in its use, but the patient continued to sink, and died on the 8th. The urinary secretion was suppressed during the last fifty hours of his life, but the examination of a small quantity which was obtained did not yield any evidence of renal disease.

Autopsy, thirty-eight hours post mortem.—No rigor mortis; cadaver well developed; no emaciation; there were no ulcerations or other signs of injury on the body. Cranial cavity:—Not examined. Thoracic cavity:—Heart healthy; right lung was bound down throughout its whole extent by adhesions; no abscesses. Abdominal cavity:—Organs all glued together by recent exudation of lymph, with effusion into the peritoneal cavity of about thirty ounces of serum mixed with flocculi of lymph; there was considerable arterial congestion of the peritoneal coats of intestines, which were greatly distended with gas. On removing and washing the colon, its upper portion, for a distance of a foot from the caput coli, was thickly studded with ulcerations, varying in size from one-eighth to three-fourths of an inch in diameter, some of these ulcers extended quite through the mucus into the muscular coat, but at no point was there complete perforation of the gut; the stomach was considerably congested about its greater cul-de-sac; the liver was fatty and increased in size, weighing six pounds and a half; the left lobe being almost as large as the right; in the substance of the organ, there were three large abscesses, the largest of which was about three inches in diameter, in addition to these were numerous small ones; the kidneys weighed nearly seven ounces each, and under the microscope, the convoluted tubes were found filled with epithelium, so as to be completely choked up; the spleen was a little more than twice its natural size, and very friable.

Report of the Practice of the Second Surgical Division of Bellevue Hospital for 1856. By Dr. Stephen-Smith, Attending Surgeon.

(*Continued.*)

FRACTURE OF THE CLAVICLE.

Summary—whole number eleven.

Case 1.—*Transverse Fracture near the Junction of Outer and Middle Third—Fox's Apparatus—Firm Union on twenty-eighth day—Shortening an inch—Outer Fragment Over-riding Inner.*—A.G.; æt. 38 years; native of Ireland; laborer; of moderately temperate habits; was admitted four days after the injury. The fracture was through the outer third of the clavicle, in a transverse direction to the bone, and resulting in considerable deformity. Fox's apparatus was immediately applied; it was retained uninterruptedly for twenty-eight days, when it was removed, and the union was found to be firm; there was deformity, consisting of the over-riding of the scapular fragment to the extent of an inch.

Case 2.—*Oblique Fracture of Middle Third, External Part, from a Fall upon Shoulder—Fox's Apparatus—Union on sixteenth day, but not firm.*—T. R.; æt. 25 years; laborer; temperate; of good constitution; was admitted four days after the injury. The fracture was oblique through the middle third, near its junction with the outer third; was

caused by a fall from a tree upon the shoulder; Fox's apparatus was applied; the fragments were not kept in very exact apposition, the inner being uppermost. The patient was discharged on the sixteenth day, with the dressings on; the union seemed quite firm, but no forcible attempts were made to test it; there was considerable deformity, the inner fragment projecting upwardly.

Case 3.—*Simple Oblique Fracture through Middle Third, External Part, from a Fall upon the Shoulder—Fox's Apparatus—Firm Union with Deformity.*—D. Mc'C.; æt. 25 years; laborer; of good constitution; was admitted soon after the receipt of injury. Fracture was through the middle third, near its junction with the outer third, and resulted from a fall upon the shoulder; Fox's apparatus was applied, and continued for a period not specified. Union was firm when the patient was discharged, with deformity, and about half an inch shortening.

Case 4.—*Simple Oblique Fracture of Sternal Third of Clavicle from a Fall—Discharged on second day.*—J. M.; æt. 43 years; carpenter; of good constitution; was admitted soon after being injured. The fracture was through the sternal third of the right clavicle, and was occasioned by a fall from the third story of a building; he was considerably injured otherwise. Emphysema existed about the neck of the injured side; right arm was bandaged across the chest; the patient left on the second day.

Case 5.—*Simple Oblique Fracture of Middle Third, External Part, from a Fall—Fox's Apparatus—Union firm at end of seventy-six days, with slight Deformity.*—T. D.; æt. 45 years; laborer; of good constitution; was admitted eight days after the receipt of the injury. The fracture was at the junction of the middle and outer third, and occurred from a fall into a cellar, about ten feet in depth, the blow being upon the shoulder. Fox's apparatus was employed; these dressings were removed at the end of seventy-six days, when union was found firm; but there was slight deformity, the sternal extremity projecting upward.

Case 6.—*Simple Oblique Fracture about the Middle of Right Clavicle, from Direct Injury—Fox's Apparatus—Refused Treatment—No Union at end of fourteen days.*—W. G.; æt. 41 years; laborer; intemperate; admitted soon after the injury. He was struck by a stone falling from a three-story building, upon the occiput and clavicle of the right side; the injury to the head consisted of a scalp wound, exposing the bone. The clavicle was fractured transversely about its center, with but little tendency to displacement; the patient was delirious when brought to the hospital, and continued more or less intractable, while under observation; Fox's apparatus was applied at the end of a week, but he would not retain it for any time; he left the hospital on the fourteenth day, union not having taken place.

Case 7.—*Simple Oblique Fracture about the Middle of the Right Clavicle, from a Fall upon the Shoulder—Fox's Apparatus—Firm Union on the forty-seventh day.*—J. B.; æt. 29 years; laborer; intemperate; was admitted on the day of the accident. The fracture was

through the middle of the right clavicle; and occurred from a fall upon the shoulder; Fox's apparatus was applied, and retained without interruption for forty-seven days; on removal, the union was found to be firm, but slight deformity existed; the sternal portion being elevated.

Case 8.—*Simple Oblique Fracture through the Middle, from a Fall—Fox's Apparatus.*—A. C.; æt. 32 years; domestic; of good constitution; was admitted on the day following the injury. The fracture occurred from a fall upon the pavement, and was through the middle of the clavicle; Fox's apparatus was applied, and retained thirty days, when union was found to have taken place. There was deformity, the inner fragment projecting, and about half an inch shortening; for two or three days she complained of pain from pressure of the axillary pad; and after the removal of the dressings, she was found to have partial paralysis of the arm; she gradually improved from this condition, and when she left, was quite recovered.

Case 9.—*Simple Oblique Fracture through the Middle Third, External Part, from a Fall upon the Shoulder—Fox's Apparatus—Firm Union on thirty-fourth day.*—T. M.; æt. 53 years; laborer; temperate; was admitted three days after the injury. The fracture was about the junction of the middle and outer third. It resulted from a fall upon the curb-stone, the violence being received upon the shoulder; Fox's apparatus was applied, and continued thirty-four days, when it was removed, and union was found to be perfect. The only deformity was a slight elevation of the inner fragment.

Case 10.—*Simple Oblique Fracture through the External Part of the Middle Third.*—J. D.; æt. 28 years; laborer; of good constitution; was admitted on the day of injury. The fracture was the result of a fall upon the shoulder, and occurred at the external portion of the middle third; Fox's apparatus was adjusted to the shoulder, and on removal, on the eighteenth day, union was found to have taken place. The inner fragment projected, and there was three-fourths of an inch shortening.

Case 11.—*Fracture through External Third, one inch from Scapular Extremity.*—C. A.; æt. 55 years; of robust habit; was admitted for an injury to the left shoulder, occasioned by a fall upon that part. On examination the integument bore evidences of violence, but no other injury was detected than fracture of the clavicle near its scapular extremity. The patient could not place her hand upon her head, apparently rather from the contusion than the existence of fracture in this portion of the clavicle. There was no tendency to displacement, and the patient was simply confined to the horizontal position.

Remarks.—*Sex.*—In this collection of cases we have two occurring in the female, which fact shows simply the greater exposure of the male to injuries.

Age.—The patients were all adults; this is due to the fact that only adults are admitted to the hospital.

Cause.—The cause of fracture, in every instance but one, was indirect, the violence being received upon the shoulder.

TABLE OF ELEVEN CASES OF FRACTURE OF THE CLAVICLE.

NO. SEX. AGE.	CAUSE.	POINT OF FRAC.	DRESSINGS.	TREATED.	RESULT.
1. M. 38.	—	Middle third, ext. part...	Fox's apparatus.	28 d.	Union, one inch short; external frag. proj.
2. M. 25.	Fall on sh'ldr	Middle third, ext. part....	Do.	16 d.	Union, inner frag. projecting.
3. M. 35.	Do....	Do.....	Do.	—	Union, half-inch short.
4. M. 43.	Fall...	Sternal third.	—	2 d.	Unknown.
5. M. 45.	Fall on sh'ldr	Junc. of middle and ext. third	Do.	76 d.	Union, short; inner frag. proj.
6. M. 41.	Direct blow	Middle	None.	14 d.	No union.
7. M. 29.	Fall on sh'ldr	Middle	Fox's apparatus.	47 d.	Union, short; inner frag. proj.
8. F. 24.	Fall...	Middle third, ext. part...	Do.	30 d.	Union, half-inch short; inner frag. proj.
9. M. 53.	Fall on sh'ldr	Do.....	Do.	34 d.	Union, inner frag. projecting.
10. F. 55.	Fall...	Do.....	Do.	18 d.	Union, inner frag. project.; ⅛-inch short.
11. F. 55.	Fall....	One inch from scap. ext...	None.	21 d.	Uncertain.

Point of Fracture.—In about two-thirds of the cases, the point of fracture was at or near the junction of the external and middle third, being generally near the external extremity of the middle third, or at the point where the acromial curvature begins. In all these cases, the violence was received upon the shoulder. In two instances, the fracture was near the middle of the bone; and in one, was the result of direct violence. In one, the fracture was through the sternal third, about an inch and a half from the articulation of the clavicle with the sternum; while in a second, it was about an inch from the scapular extremity.

The point at which fracture of the clavicle occurs, depends upon the nature of the injury. If the violence is received upon the shoulder, the fracture is liable to occur, according to these statistics, near the junction of the outer and middle third, or where the acromial curvature begins, in the proportion of seven to two at its middle. This proportion corresponds very nearly with the statistics of Prof. Hamilton, who, in his admirable series of reports upon *Deformities after Fractures*, gives the following result:—"Of forty-eight simple fractures of the clavicle recorded by me, forty have occurred through the middle third, and a great majority, about thirty-five, at the acromial end of this third."* It is the recorded opinion, however, of many authorities, that the clavicle is more often fractured in the middle. Fractures at this point would appear to be exceptional, and depending

Trans. Am. Med. Assoc., vol. 8, p. 425.

rather upon direct violence. In one case, the fracture was near the sternum, and was caused by a fall from the third story of a building, among the beams; there was but slight displacement, and this was readily overcome; the result was unknown, as the patient left the hospital on the second day.

Dressing.—The form of dressing employed was in every instance that known as Fox's apparatus. This was selected because simple in its application, and quite as effectual as any other. It rarely becomes disarranged, seldom gives the patient any uneasiness, and retains the fragments in as complete apposition as any dressings for fractured clavicle in use.

Length of Time under Treatment.—The length of time required for the union of fractures of the clavicle, as in fractures of other bones, depends upon circumstances. In one case, union took place in sixteen days, while a second required seventy-six days. As a rule, fractures of the clavicle unite with great promptness, according to good authority, in from fifteen to twenty days. In several of these cases, union had taken place long before it was deemed advisable to remove the dressings. It was frequently noticed, that at the end of the third week all motion between the fragments had ceased; yet, when the dressings were removed, and the shoulder left unsupported at the elbow, deformity occurred at the seat of fracture to such an extent as to excite apprehension lest the recent callus should give way. The dressings were, therefore, continued until a more permanent union had taken place.

Results.—In three cases, the patients left the hospital before union had taken place, in all of which there was no reason to apprehend other than favorable results. In the remaining number, union became firm in due time, and the patients left the hospital with useful limbs. It must be remarked of the female patient, however, in whom a temporary paralysis of the arm occurred, that she was daily regaining its use after the removal of dressings, and when she left there was but slight impairment of its motions. The paralysis was undoubtedly due to the pressure of the axillary pad, of which she made complaint, and on account of which she frequently removed the dressing. In every case deformity existed to a greater or less extent; this consisted of shortening, and in the projection of the internal above the external fragment, in all but two cases; in one of these, the external fragment projected above the inner, and in the second, the fragments passed each other laterally.

FRACTURE OF SCAPULA.

Summary—whole number, three.

Case 1.—*Fracture of Acromion from a Fall Upon the Shoulder—Result unknown.*—J. M., æt. 43 years; laborer; of good constitution; was admitted immediately after the injury. The acromion process was found to have been fractured off by direct violence, received in a fall from the third story of a building. There was, also, a fracture of the clavicle; the treatment adopted was elevation of the elbow, and firm

bandaging of the arm flexed upon the chest. The patient left the hospital on the second day, leaving the results of treatment unknown.

Case 2.—*Fracture of Acromion from Violence received upon its Inferior Surface—Death on the eleventh day.*— N. K., æt. 35 years; laborer; of good constitution; was admitted several hours after the accident. The injuries were received from a powder blast, and were very extensive and severe; they proved fatal on the eleventh day. On examination a penetrating wound of the right shoulder was found to have involved a fracture of the acromion process. The fracture was upon the under surface, completely through the bone, but not involving the fibrous covering of the upper surface. The fractured extremity, adhering to this substance, could be turned upward, as on a hinge; when brought into its proper position there was no displacement.

Case 3.—*Fracture of the Spine of the Scapula.*—T. H., æt. 36 years; laborer; of good constitution; was admitted seventeen days after the receipt of injury. The violence was caused by the fall of the weight in a derrick, which grazed the shoulder; the process was perfectly movable on admission.

TABLE OF THREE CASES OF FRACTURE OF SCAPULA.

NO. SEX. AGE.	CAUSE.	POINT OF FRACTURE.	DRESSINGS.	TREATED.	RESULT.
1. M. 43.	Direct violence	An inch from extremity of acromion process..	Elevation of arm.	2 d.	Unknown.
2. M. 35.	Do.....	Do.....	None.	11 d.	Death on 11th day.
3. M. 36.	Do.....	Two inches from extremity.....	—	—	—

Remarks.—Of the three cases of fracture of the scapula here recorded, all involved the spine with its process; this confirms the general opinion that the acromion process is particularly liable to be fractured, owing to its exposed position. The second case presents a novel feature in the manner in which the injury was received, being upon the under surface of the process; this fracture was not detected until after death, as the fibrous structures covering the upper surface of the process remaining uninjured, there was no displacement. In the third case the fracture was the result of direct violence from the fall of a heavy body which grazed the shoulder; the point of fracture was much farther back than in the other cases, involving the spine of the scapula; the results of the treatment in these cases could not be obtained.

FRACTURE OF OS BRACHII.

Summary—whole number, ten.

Case 1.—*Simple Transverse Fracture just above the Condyles—Paste-board Splint—Non-Union.*—M. C., æt. 23 years; waiter temperate; having a syphilitic taint of system, was admitted on the seventh day after the accident. The injury occurred from falling down stairs, and consisted of a transverse fracture of the os brachii just above

the condyles; paste-board splints, carefully adapted to the posterior part of the limb in a flexed position, were applied on the tenth day. These dressings were retained three weeks, when they were removed, but no union had taken place. They were reapplied and retained for four weeks, but on their removal, it was found that no attempt at union between the fragments had been made. Patient left the hospital at the end of four months, with perfectly free motion at the point of fracture; about the lower fragment there appeared to be a large amount of ossific deposit; the health of the patient gradually deteriorated while he remained in the hospital.

Case 2.—*Simple Fracture at Surgical Neck—Velpeau's Bandage—Result not noted.*—H. D., æt. 50 years; intemperate; laborer; was admitted on second day after the accident. The injury was occasioned by a fall down stairs; there was perceptible displacement of the upper end of the lower fragment inward, and motion of the elbow with firm pressure gave distinct crepitus; the motions of the arm were limited, but the elbow could be applied to the side.

Case 3.—*Simple Fracture through the Anatomical and Surgical Neck—Death.*—N. K., æt. 35 years; laborer; of good constitution; was admitted soon after the accident. The fracture was the result of a penetrating wound of the shoulder, from a missile discharged from a blast. The patient died from other severe injuries, on the eleventh day. On examination, the os brachii was found fractured through its anatomical and surgical neck. The fracture commenced just below the tubercles, upon the internal aspect of the bone, and extended obliquely across to the opposite side, terminating by chipping off a portion of the articular surface.

Case 4.—*Simple Fracture of Shaft—Result Uncertain.*—E. W., æt. 20 years; seamstress; intemperate; was admitted one week after the accident. The injury was caused by a fall down stairs, and resulted in an oblique fracture through the shaft. The swelling having subsided, straight splints were applied, four in number, corresponding with the different aspects of the limb. They were retained in place until the fifteenth day, when the patient took her discharge. The results were unknown.

Case 5.—*Simple Fracture through the Surgical Neck—Result not noted.*—M. C., æt. 60 years; chamber-maid; was admitted on the second day after the accident. The fracture occurred from a fall down stairs. It was obliquely through the surgical neck, and attended with considerable shortening and deformity, the sharp extremity of the lower fragment being plainly felt in the axilla. Four straight splints were applied on the seventh day, with an axillary pad.

Case 6.—*Simple Fracture of Surgical Neck—Result not noted.*—E. B., æt. 54 years; laborer; of good constitution; was admitted twenty days after the accident. The injury was received from a fall upon the arm. The signs of fracture at the surgical neck of the humerus, were distinctly marked. The dressings consisted of Velpeau's bandage with an axillary pad.

Case 7.—Compound Fracture of Os Brachii—Simple Fracture of Both Bones of Fore-arm—Recovery.—D. G., æt. 12 years; was admitted soon after the accident. The injury was caused by the arm being caught in the wheel-band of machinery, and consisted of a simple fracture of both bones of the fore-arm, and compound fracture of the os brachii, near the middle of the shaft. The wound of the soft parts, was on the inner aspect. The fractures were dressed by the application of short splints to the fore-arm, and a long splint on the posterior surface of the arm; the wound being left uncovered so as to admit of examination, and the use of proper dressings. The splints were removed from the fore-arm in twenty-one days, when union was found to be firm. The external wound of the arm sloughed, and the patient sank very low. He, however, finally recovered, and left the hospital at the end of five months. There were still sinuses leading to the fracture, and some stiffness of the elbow joint.

Case 8.—Simple Fracture of the Inner Condyle of the Humerus.—E. H., æt. 27 years; laundress; was admitted on the day of injury. The accident occurred from a fall down stairs; the elbow receiving the violence. The inner condyle was fractured off, allowing partial luxation of the elbow. Pasteboard splints were applied on the twentieth day. The splints were adapted to the posterior and inner aspect of the limb, the fore-arm being flexed at right angles. These dressings were continued six weeks, when they were removed, and passive motion commenced. The patient was discharged at the end of two months, the motions of the joint being very much impaired.

Case 9.—Fracture Through the Surgical Neck—Perfect Union—No Deformity.—I. G., æt. 40 years; servant; intemperate; was admitted on the day following the accident. The injury was caused by a blow upon the shoulder with a club. The fracture was obliquely through the surgical neck of the os brachii. The limb was dressed with a pad in the axilla, and a splint extending from the acromion process to the external condyle, the arm being bound to the side, and supported in a sling.

NO. SEX. AGE.	CAUSE.	POINT OF FRAC.	DRESSINGS.	TREATED.	RESULT.
1. M. 28.	Fall ...	Junc. of shaft and condyles	Angular pasteboard splints.	4 m.	Non-union.
2. M. 50.	Fall ...	Surg. neck....	—	—	Unknown.
3. M. 35.	Blast ..	Anat. and surg. neck.....	None.	—	Died.
4. F. 20.	Fall ...	Oblique of shaft.....	Four splints.	15 d.	Unknown.
5. M. 60.	Fall ...	Oblique of surg. neck..	Four splints.	—	Unknown.
6. M. 54.	Fall ...	Surg. neck ...	Velpeau's bandage.	—	Unknown.
7. M. 12.	Caught by wheel	Comp. of lower third	Posterior straight splint.	5 m.	Union; no deformity.
8. F. 27.	Fall ...	Inner condyle.	Angular pasteboard splints.	42 d.	Union; no deformity.
9. M. 40.	Blow ..	Surg. neck ...	Four splints.	—	Union; no deformity.

Remarks.—*Sex.*—In fractures of the os brachii, the proportion of females to males, has been two to seven.

Age.—All were adults but one, and four of the nine were forty years of age, or upward.

Cause.—In all cases the injury was direct, having generally been the result of a fall down stairs.

Point of Fracture.—In five of the nine cases, the fracture occurred near the upper extremity of the bone, or through the surgical neck. In one, the fracture extended to the head of the bone, producing an intra and extra-capsular fracture. The other forms of fracture present nothing of particular interest.

Dressings.—The dressings for fracture of the shaft, have usually consisted of four splints adapted to the limb, the external extending from the acromion to the lower border of the fore-arm, placed in a semi-flexed position. In fractures involving displacements at the elbow joint, angular pasteboard splints were used.

Results.—In four of the nine cases, the results of treatment were unrecorded; in three, the union was firm, without deformity; in one, the patient died; and in one, no union took place after four months, treatment. In the latter case the patient was suffering from constitutional syphilis, and general debility, to which causes the failure of treatment must be attributed. He was subsequently operated upon for ununited fracture, but without success.

PART SECOND.

CRITICAL ANALYSIS.

ART. VIII.—*Schilderung neuer Beckenformen und ihres Verhalten im Leben, der Praxis entnommen.* Von DR. HERMANN F. KILIAN, Professor der Geburtshülfe zu Bonn. Mannheim, 1854.

Description of some New Pelvic Formations, and their Influence During Life, taken from practice. By DR. HERMANN F. KILIAN, Professor of Obstetrics of the University of Bonn. Mannheim, 1854.

AMONG the different obstetrical works which have lately made their appearance in Germany, that of Dr. Kilian, on some new pelvic formations, deserves by far the greatest attention of the profession. It makes known a series of the most interesting and dangerous deformities of the female pelvis, which were entirely overlooked to the present time. The description of these deformities conveys a perfectly correct idea of the malformation, as we can testify, having had all the different specimens under our own observation. Moreover, this work confirms the reputation of its author, as one of the most distinguished obstetrical writers in Germany.

The book is divided into two sections:—

I.—*The Vertebral Sliding* (Spondilolisthesis.)*—The first discovery of a new unknown pelvic deformity was made by the author, in 1836, when on a visit to the Maternité, at Brussels. It came from a woman who died after a Cæsarean operation. All diameters of the basin were normal, but the antero-posterior of the entrance, which was very much shortened by the fact that the lumbar vertebræ had slipped forward, over the basis of the os sacrum. As this pelvis could not be obtained for closer examination, we were unable to give a more minute account of its peculiarities.

For the second communication of a similar pelvic deformity, we are obliged to Prof. F. A. Kiwisch, of Prague, in his treatise on midwifery. (Erlangen, 1851, § 99, p. 168–170.)

History of the Pelvis of Prague.—A primipara, æt. 24 years, entered the Lying-in Hospital on the 6th of June, 1849, with labor pains; she was a healthy, good-looking woman, with a regular stature; walking around in an erect position, only the left hip seemed to be a little higher than the right one. A very remarkable lordosis was discovered in the lumbar region, while a trifling kyphosis existed in the pectoral part of the spine. By digital examination, the pelvic cavity was found spacious; the head of the fœtus very high above the en-

---

* Derived from *σπόνδυλος*, vertebra; and *ὀλίσθησις*, the act of sliding, slipping.

trance of the pelvis; the conjugate axis was very much enlarged by a large tumor protruding into the cavity, which was recognized to be the promontory of the sacrum. The external application of Baudelocque's *compas d' épaisseur*, showed a conjugate diameter of three inches and a half. But for obtaining a more accurate knowledge of the pelvic capacity, the entire hand was introduced into the vagina, and thus it was ascertained that the antero-posterior diameter of the entrance could not be more than two and one-tenth inches. Under these circumstances, and as the child was alive, the Cæsarean section was performed. The repeated hæmorrhages after the operation were so violent, that the woman died six hours after.

Description of the Pelvis.—The form, size, and weight of the pelvis were not different from other healthy specimens. But the os sacrum was very much curved; the os coccygis was turned forward in a most remarkable way; the pelvis had a very small degree of inclination; the flare of the hipbone are flat; and the acetabula turned unusually forward.

This state of things was found in all the other pelves of this kind, owing to the influence of an altered pressure of the vertebral column, the lumbar part of which was removed from its natural position. It will be sufficient to give a more minute description of the shape and diameters of the entrance, as the other divisions of the pelvis remain unchanged. The lateral diameter measured four and one-tenth inches; the diagonal (Deventer's) diameters, four and two-third inches; the basis of the os sacrum was three and one-tenth inches, or four inches broad. A vertical cut with a saw through this bone shows that it has been formerly in a softened condition, the consequence of which is seen in the foramina sacralia anteriora, which are smaller, flattened, and seem to have approached one another. The fifth lumbar vertebra has slipped down from the great articular surface of the os sacrum in such a direction, that the inferior surface of its body is situated upon the anterior surface of the first vertebra sacralis, so much so, that the latter one, which is about fourteen lines high, is perfectly covered from this lumbar vertebra to the extent of ten lines. The generally large interarticular cartilage between the os sacrum and the fifth lumbar vertebra has nearly vanished; the articular surface of the first vertebra sacralis, which is usually straight and horizontal, has been made round and convex. The anterior surface of the displaced vertebra, is so much turned downward, that it forms almost a right angle with the first vertebra sacralis. Moreover, it is obvious that the last vertebra lumbalis has been compressed in its altitude, so that it is shorter than it ought to be. This vertebral sliding has caused a dilatation of eight lines in the lower part of the spinal canal, while the upper portion of the sacral canal is diminished in size, almost to one line. In consequence of this vertebral dislocation, the entire spinal column has been moved downward, so that the upper part of the fourth lumbar vertebra takes the place of the promontorium. The space between the latter and the symphysis pubis—the conjugate—is only two inches and eight lines.

The third pelvis presenting this deformity, has been discovered in Paderbon, Westphalia, Prussia; and is described for the first time by Prof. Kilian. The history of this case is very interesting, and at once throws light upon the origin of these deformities.

History of Case.—Catharina Lommius, born in 1810, was pregnant for the last time, in 1850; reared under the most distressing circumstances, she continued to live so unto her death; her parents as well as two of her sisters died so early, that the patient could not give any exact account of their former state of health; at ten years of age, she had a severe attack of typhus fever, the consequence of which was, as she expresses it herself—a stiffness of her entire system, depriving her of the free use of her limbs; but as she was obliged to do hard out-door work, and to stand for a long time in a bent position of her body, it happened that to the stiffness was added a distressing pain in her back; these pains in course of time increased so much that the patient was perfectly unable to walk in an upright position; her menses appeared for the first time, not before she had reached her twenty-second year, and were always scarce and irregular, but neither this incident, nor change of weather, had any influence upon these real ominous backaches, which never left her for any considerable length of time; though she was very much disfigured, she had an offer of matrimony in her thirty-fourth year, which she readily accepted. This was in the year of 1844; one year later she had an abortion, and it was a full year before she again became pregnant. This time (1845) she went the full term; but the attendant physician could not deliver her otherwise than by performing the Cæsarean operation, by which, both mother and child were saved. In the middle of the year 1850, patient had another miscarriage, from which she recovered; soon after the signs of another pregnancy became evident; the patient, who at this time came under continual medical attendance, proved to be of a very weak constitution; her stature was remarkable, for, when she walked round, she was so much bent forward that her motions resembled exactly those of a quadruped.

The external examination of the pelvic region disclosed an uncommonly deep sinking of the lower lumbar vertebræ, while the os sacrum, unusually curved, protruded far backward; by an internal examination no remarkable difference from the normal state was at first discovered, while the lower part of the pelvic cavity was of a very satisfactory size; the entrance of the basin was obstructed by a portion of the vertebral column, which lay over it like a roof, so much so, that the conjugate axis was concluded to be no more than two inches wide.

On December 25, 1850, labor pain set in, and when they had become very strong, Dr. Everken, of Paderborn, assisted by Drs. Gerlock and Wewer, performed the Cæsarean operation and extracted a living child; on the evening of 27th inst., the woman died from a violent peritonitis.

The pelvis taken from her was so much like the one above described, that it would be unnecessary and surpassing the proposed limits of this article, should we enter into a minute description of it. In both we find just the same anomalous formation in such a degree that the space

of the pelvic entrance is almost entirely occupied by the vertebral arch.

Professor Kilian is of opinion that this deformity is not to be attributed to a congenital defect, but that it took its origin during lifetime, in consequence of disease. At any rate, in the case of Catharina Lommius, the malformation seems to have risen from continually hard out-door working, in a stooping position, joined to the influence of a very poor and improper nourishment. It seems that the development of the disease originated from a tubercular or scrofulous dyscrasia, which resulted in a merely local softening of both the interarticular cartilage between the last lumbar vertebra and os sacrum, and the surrounding ligament sand bones; in either pelvis a mollification of this kind seems to have existed, in consequence of which, during an injurious position of the trunk, the fifth vertebra lumbalis was brought a little out of its natural line, which dislocation, when once induced, increased slowly for years, till it came to such an extent as we find it in our specimen. A fourth spondylolysthetic pelvis was described by Professor Rokitansky, in the *Austrian Annals* (*Œsterreichische Jahrbücher*) several years ago, and afterward by Dr. Spaeth, in the *Journal of the Society of Physicians* in Vienna (*Zeitschrift der K. K. Gesellschaft der Aerzte zu Wien*, 10 *Jahr.*, 1854.) This case was observed in the Vienna Lying-in Hospital February 22, 1856. It was found that when Clara T., at the beginning of her labor, was examined, the os uteri was scarcely to be got at with the index, from its being placed unusually high above the brim of the pelvis; at once it was ascertained that the last lumbar vertebra protruded considerably forward, so that it was impossible for the woman to be confined in the natural way. Therefore, the craniotomy forceps was applied, and the mother died some days afterward, in consequence of a metro-phlebitis. The pelvis thus obtained was sent to Prof. Kilian, by Prof. Rokitansky; it shows the same peculiarities as the other basins of this kind, and the anterior surface of the first sacral vertebra is covered by the inferior articular surface of the last lumbar vertebra; the os coccygis protrudes considerably into the outlet of the pelvis; the anterior wall of the pelvis is protruding in front; the articular surface of the basis of the os sacrum is not covered by the last lumbar vertebra, which is moved considerably forward; the sacral portion of the vertebral canal is very much straightened, but the pelvis is regularly formed in every other respect. Still, in one point, this specimen differs from the rest, viz.:—on the interior portion of the body of the last vertebra, two additional short articular processes are held on both sides, which are fastened by a thin cartilaginous plate in a corresponding articular cavity, situated a little above the first pair of foramina sacralia anteriora. By this newly held articular apparatus the sliding of the last vertebra is limited to a certain extent, and, in this case, we can not doubt that it is a congenital deformity.

Since the publication of Prof. Kilian's work, another similar pelvis has been discovered in the Anatomical Museum of Munich, and described by Dr. Breslau in the *Obstetrical Journal of* Prof. Scanzoni. (*Beiträge zur Geburts-Kunde v. Scanzoni, Würtzburg,* 1855, *Bk. II.*

p. 7.) This pelvis resembles the other ones perfectly in its general outlines; the conjugate diameter only three inches and seven lines broad; the inter-articular cartilage between the last lumbar vertebra and os sacrum has disappeared, and these bones are united, forming an anchylosis.

II.—*The Spine—Basin* (*pelvis spinosa*)—*Acanthopelys.*—Prof. Kilian brings before the public, in this part of his work, a new and very disastrous malformation of the pelvis. At least, he is the first author who has so distinctly pointed out and limited this part of pelvic dystocia. All the different writers up to the present time, who touched this subject, not only lacked sufficiently correct observations, but even speak of the whole affair in such a vague manner, that they seem to doubt the fact; or, at least, are unconscious of its importance and frequency. That it is a most disastrous occurrence, and not so very rarely met with, is proved by *five* fatally ending cases, four of which came under the author's own observation in the time from 1829 to 1853.

Acanthopelys is a term applied to those pelves in which are found large and sharp edges (cristæ), or distinct points (spinæ), in the region and the direction of the linea ileo-pectinea. These sharp *edges* are merely a hypertrophied state of the cristæ and pectines ossium-pubis, a condition more commonly met with in male than in female pelves. They sometimes extend in length to the middle of the superior margin of the acetabulum and upwards of three lines in hight. The *points* (spinæ), which very much resemble thorns, and are found growing equally in the direction of the linea ileo-pectinea, are considered by the author to be recently formed; they seem to spring up always from one very distinct point of the linea innominata, viz., where the synostosis pubo-iliaca is situated; they are three or four lines high, as pointed as a pin, consisting of a very condensed ivory-like osseous texture.

1. *Observation.*—The woman to whom this pelvis belonged, was a rhachitic primipara. The labor pains dilated the mouth of the uterus very rapidly, and grew even stronger after the membranes were ruptured. Still, they could not accomplish the delivery of the child, which had a vertex presentation. A physician (Coroner Velten, M.D., of Bonn, Prussia,) was called in and found the patient in great agony. He instantly recognized a rupture of the uterus, and the patient died before any operation could be attempted. The pelvis thus obtained is of rhachitic deformity, though not very much contracted, but of a considerable weight. All protuberances, prominences, and points of the basin are very conspicuously developed, especially the tubercula pubis. From both the spinæ pubis, the crista pubis ascends gently; but, instead of disappearing in about the middle of the horizontal ramus, it increases in hight, on both sides, so as to form a sharp crista, like *the edge of a knife*, on the *right* side, while on the *left*, just above the synostosis pubo-iliaca, it increases to a steep, *sharp-pointed spine* of three lines. On either side, this osteophytic edge is fourteen inches in length. Exactly corresponding with this thorn, the lacerations in the womb began near the posterior wall and extended almost to the fundus. At the post-mortem examination, when an attempt was made to take the child out of the cavity, the hand introduced into the uterus

was able to feel instantly this sharp-pointed deadly spine springing from the pelvic entrance, and at once the examiner was struck with the idea that this extraordinary neoplasma was the cause of the uterine rupture.

2. *Observation.*—Barbara S., æt. 24 years; of a healthy constitution; entered the Lying-in Hospital of Bonn, Prussia, on October 31, 1829, and felt the first labor-pains on the 1st November. At about eleven o'clock, P.M., a living child of 7 lbs. weight was born. The confinement was unusually painful; and, after the delivery, the system of the mother seemed very much shaken, so that she was restless, complaining of severe headache and trembling all over the body. She fainted away several times. The after-birth was adherent to the *right* side of the uterus by a very dense fibrous tissue. When it was artificially removed, a hæmorrhage of about twelve ounces of blood followed, which was of a *peculiar, bad odor*. About midnight, the patient was roused from a short sleep by violent inflammatory pains in the abdomen. An exudative metro-peritonitis set in, which resulted in the death of the victim on the 16th of November.

Thirty hours after death, the post-mortem examination was held. Besides the characteristics of a peritonitis, the *uterus* was found in a very extraordinary condition. On the right side of its lower segment, just opposite to the right margin of the pelvic entrance, was a place, the size of *a silver dollar*, which resembled very much *gangrenous ulceration*, which the inflammatory process extended in every direction, involving the whole organ in a most marked degree. In the middle of this sphacelous spot was a deep impression, terminating in an apparently punctured wound, which *communicated with the cavity of the uterus.*

The pelvis taken from the body, and well macerated, presented the following peculiarities:—Nearly in the middle of the linea ileo-pectinea dextra, just upon the *right* synostosis sacro-iliaca, and corresponding to the place where the said gangrenous portions of the uterus is situated, *a large spine* sprung out, terminating in a sharp point; its base was one inch broad, its hight four lines, and its osseous texture is of a very dense structure. Just opposite the synostosis pubo-iliaca sinistra, are found two very small, rough, lamellated, osseous deposits.

3. *Observation.*—Sophia M., of Honnef, near Bonn; æt. 21 years; of a seemingly rhachitic stature, entered the Lying-in Hospital of Bonn on the 22nd of October, 1841. After an external and internal examination, the pelvis was found to be of a rhachitic deformity, the conjugata measuring scarcely three inches; therefore, craniotomy was performed, as the child was ascertained to have expired previously. After one of the most difficult and protracted operations, the woman was at length delivered, but died nine hours after the removal of the after-birth. The pelvis, carefully taken out, proved to be of a very remarkable rhachitic appearance, the conjugate being of two inches and nine lines. From the middle of the *right linea ileo-pectinea*, rises a *spine as sharp as a pin, looking like a large thorn, its point being towards the cavity of the pelvis;* its situation is just above the synostosis pubo-iliaca; its basis measures ten lines, its hight almost four

lines. Right opposite to this place, the uterus was perforated by the spine, so that its point entered into the cavity of the womb. Around the edges of this hole, the tissue of the uterus showed the symptoms of a very violent inflammation, occupying the greatest portion of its lower segment.

4. *Observation.*—Elizabeth B., of Coblentz, Prussia; a primipara; entered the Lying-in Hospital of Bonn, on the 2nd March, 1850. Her first labor-pains began on the 17th March; up to that time, she continually complained of *a very distressing, painful sensation in the lower part of her abdomen.* The labor began towards night, and proceeded satisfactorily; and at about five o'clock A.M., of the following day, the head advanced almost to the outlet of the basin, but here it stood immovable. The pains were entirely exhausted, so that, at about seven o'clock A.M., a forceps operation was resorted to, after which the mother felt quite easy and well. But in the course of the day, she complained again of the above named pain in her abdomen, especially on the left side; her pulse became a little feverish, with exacerbations toward morning on the following day. This state of things remained without any alteration until the 22nd March, when the woman died suddenly. A post-mortem examination, at first, seemed to give no explanation of this unexpected event, till at length there was found between the lamina of the *ligamentum uteri latum* a copious coagulated extravasation of blood, and after dividing the ligament, *a rupture of the uterus, four inches long*, was disclosed, which entered into the cavity of the organ. Just opposite the place of this laceration, stood a *double-pointed prominence of considerable size*, in the entrance of the left side of the pelvic cavity; the pelvis was in every other respect a model of good formation. This double, sharp, osseous elevation is situated, as in the cases already related, just upon the synostosis pubo-iliaca. The whole length of this pecten is ten lines, the hight of the anterior point is about five lines, the posterior about two lines.

5. *Observation.*—Mrs. S., of Bonn, was delivered in her previous five confinements by forceps; her pelvis appeared to be not large enough for the enormous size of her offspring. She entered her sixth labor on the 25th of April, 1853; the pains were very strong, and brought the head almost into sight, when the woman suddenly cried out: "Now the child must have turned itself round!" After uttering these words, the labor ceased, the signs of a uterine rupture appeared, and the woman died in a short time, before the child could be extracted; so it was removed by Cæsarean section, its entire body having nearly entered, through a lateral rupture of the womb, into the abdomen. The dilatation began on the *left* side of the lower uterine segment, very near the orifice, and extended upward nearly to the insertion of the left tube. The pelvis is a *very regular one*, with exception of the *left crista ossium pubis*, which is twelve lines long, one line and a half high, and *as sharp as a knife.* Just opposite to this cutting prominence, the lower corner of the uterine wound was situated.

In concluding, Professor Kilian calls the attention of the physicians to this dangerous pelvic deformity, and asks them to examine the

condition of the pelvis closer than they used to do it, whenever an opportunity is offered to make a post-mortem examination after a rupture of the uterus. The author believes these osseous excrescences to be *osteophytes*, originating in the course of life, partially by a physiological, partially by a pathological, process. Among the latter, he believes that arthritic attacks, coxalgies, deposits of pus near the basin, etc., are the principal causes of these productions. But before all, his opinion is that these neoplastic formations are to be placed among the "*puerperal osteophytes*" of Rokitansky, as he often found in recently confined women this same sort of osseous exudation in different regions of the pelvis. They are most commonly met with on the inner surface of the rami horizontales, ossium pubis, on the upper sacral vertebræ, or in several other places.*

E. Noeggerath, M.D.

BIBLIOGRAPHICAL NOTICES.

Art. IX.—*The Microscope: and its Revelations.* By William B. Carpenter, M.D., F.R.S., F.G.S. Examiner in Physiology, etc., etc. With an Appendix containing the applications of the Microscope to Clinical Medicine, etc. By Francis Gurney Smith, M.D. Illustrated by four hundred and thirty-four engravings on wood. Philadelphia: Blanchard & Lea, 1856. pp. 724.

We welcome any work which tends to facilitate the practical use of the microscope; for we regard this instrument as the most important means for the correct investigation of disease yet discovered. Within the short period of its employment in pathological researches, it has accomplished more in giving us positive knowledge of the laws of disease, than had the observations and speculations of previous centuries. Dr. Carpenter has long ranked as one of the most reliable authorities in matters pertaining to physiology, both human and comparative. His voluminous writings in this department attest his industry, and the rapid sale of his works proves their general excellence.

The present work, though designed as a manual for students engaged in the study of microscopy, embraces a large field of natural science. It not only instructs the student in the principles of the microscope and the manipulations of the instrument, and the preparation of objects, but leads him to the study and contemplation of the lowest forms of animal and vegetable life, and their relation to higher organizations. He thus lays insensibly, the correct foundation of a thorough knowledge of animal and vegetable physiology.

---

* How Dr. Husted (in his article "A case of uterine rupture, etc." in this Journal, of November last), to whom I gave the work of Prof. Kilian for a perusal, came to the idea that the author considered *riding on horseback* to be the cause of this malformation, I am unable to conceive.

The editor has added to the American edition, an appendix containing the application of the microscope to clinical medicine, which greatly enhances its value.

This edition, thus enlarged, seems to us peculiarly adapted to the wants of the American student of microscopy, and to his attention we cordially recommend the volume.

ART. X.—*Lectures on the Principles and Methods of Medical Observation and Research, for the use of Advanced Students and Junior Practitioners.* By THOMAS LAYCOCK, M.D., F.R.S.E., F.R.C.P., Professor of Practice of Medicine, and of Clinical Medicine, in the University of Edinburgh, etc. Philadelphia: Blanchard and Lea, 1857. pp. 204, Duod.

DR. LAYCOCK has recently succeeded Dr. Alison, in the chair of Practice of Medicine in the University of Edinburgh, and is already favorably known as an author. His object in the present work, which is intended for advanced students and junior practitioners, is to meet the difficulties of medical observation and inquiry, which the medical man can alone appreciate, and to explain the nature of the mental processes by which professional skill and tact are acquired, and the mode of conducting them. Dr. Laycock discusses the nature and uses of theories and hypotheses, and gives illustrations of the fallacious use of the former, and shows that both theory and observation are necessary to the practitioner; theory, by pointing out what needs to be observed; observation, by correcting and enlarging them. He then passes in review the general method and objects of clinical study, and methods of clinical examination; and, under the head of *Clinical Observation of General or Constitutional Morbid States*, gives a sketch of the leading characteristics of the different diatheses and cachexes, and dwells particularly on the value of physiognomical diagnosis. One lecture is devoted to the subject of *Prognosis, and the Order of Succession of Morbid Phenomena*; another to the *Due Estimate of Treatment*, etc.; the *Numerical Method*, embracing its nature, special application, merits and demerits, illustrations of its uses, etc., occupies the sixth lecture; and the seventh and last explains and illustrates the *Analogical, Philosophical, or purely Inductive Method of Research*, and contains practical examples of the mode of conducting an analogical investigation, and of the application of the method of analogical research to anatomy, physiology, and histology. The book of Dr. L. is intended as a complement to the works on physical diagnosis, of which we have several very good ones; it opens new paths of thought and modes of investigation to the medical student, and may be consulted by him with advantage, in his preparation for the toils and struggles of professional life.

ART. XI.—*Medical Notes and Reflections.* By SIR HENRY HOLLAND, BART., M.D., F.R.S., etc., etc. Fellow of the Royal College of Physic; Physician in Ordinary to the Queen, etc. From the third London edition. Philadelphia: Blanchard and Lea, 1857. pp. 493, 8vo.

THIS work of Dr. Holland was first brought before the profession, in our country, by an edition published in Philadelphia, in 1839; republished from the first London edition, which appeared the same year. Additional interest has been given to it by the recent visits of the distinguished author among us, and we are now pleased to see an enlarged and improved edition of it from a third London edition, to which he has added a preface. The alterations in this edition embrace both the topics and the arrangement of them. The chapters on psychological subjects, which appeared in the two former editions, have been withdrawn from this, and published in a separate volume, under the title of *Chapters on Mental Physiology*, and their places supplied by other papers relating more directly to practical medicine. In this edition, also, the subjects are arranged more in the order of the relation they bear to each other, the first part of the volume being occupied with those on pathology; and the latter half, with those on the treatment of disease. Four new chapters are, also, added, viz.: *On Pain, as a Symptom of Disease; on Points where a patient may judge for himself; on Internal Hæmorrhages and Morbid Secretions, or, the Subjects of Medical Treatment;* and on *Hypochondriasis;* and many of the chapters have been enlarged and improved.

The work of Dr. Holland is too well known, and too highly appreciated by the profession, to need any recommendation by us. Embracing, as it does, the fruits of the study and observation of nearly forty years, of one so highly qualified, and so favorably situated, it can not be otherwise than valuable, as well as interesting. The difference in the typographical appearance of this reprint and that of 1839, speaks much in favor of the great change which has taken place in the getting up of medical books.

ART. XII.—*Hints on the Medical Examination of Recruits for the Army; and on the Discharge of Soldiers from the Service, on Surgeon's Certificate.* Adapted to the service of the United States. By THOMAS HENDERSON, M.D., Assistant Surgeon U. S. Army, etc., etc. A new edition, revised. By RICHARD H. COOLIDGE, M.D., Assistant Surgeon U. S. Army. Philadelphia: J. B. Lippincott & Co., 1856.

The first edition of this work was published in 1840, and met with great favor. A second, and enlarged edition was prepared by its author, who died before its issue. Its revision was undertaken by Dr. Coolidge, by whom its publication has been superintended. It is a manual of practical interest to the army surgeon.

PART THIRD.

MEDICAL RETROSPECT.

SURGERY.

A New Anæsthetic Agent.—Dr. Snow, of London, who has studied the effects of anæsthetic agents with great care, has recently introduced into practice a new agent of this class, called "amylene." Its composition is C^{10} H^{10}. It is a very light and volatile liquid, being only two-thirds as heavy as water, and boiling at 102° Fahr. The vapor is less pungent than that of chloroform, although the patient breathes it in much larger quantities. It was first discovered by Calroues, a French chemist, about fifteen years since. Dr. Snow administered amylene, recently, to several patients in King's College Hospital, on whom operations were performed. The pain was entirely prevented, although the patients did not become completely stupefied.

Fracture of Clavicle United without Deformity, by Position.—A case of fracture of the clavicle is reported by Dr. Eve (Nashville *Jour. of Med. and Surg.*) in which the patient had, also, received a severe wound of the arm. For this, he was confined to his bed, on his back, nearly six weeks; at the end of which time, the clavicle was found to have united without deformity.

Reduction of old Dislocations—Of the Femur on the Dorsum Ilii sixty-four days after injury.—Dr. Choppin, of New Orleans, reports (N. O. *Med. News and Hosp., Gaz.*) a case of dislocation of the femur on the dorsum ilii reduced sixty-four days after the accident. The patient was a stout, robust man, æt. 34 years, whose limb was dislocated, while kneeling, by a blow upon the sacrum. Efforts at reduction were made with pullies, but unsuccessfully. He entered the Charity Hospital, where reduction was effected by the pullies.

The following is the rule of practice laid down by Sir A. Cooper:—"reduction of a dislocated femur of eight weeks' existence should never be attempted." The case above cited, with the following, collected by Dr. Choppin, tend to invalidate this rule. Dupuytren reduced a luxation upward, on the dorsum, on the seventy-eighth day; McFarlane reduced a similar one on the sixty-fifth day; Guillaume, of Salicet, reports one reduced after one year's existence.

Of the Fore-arm Backward at the Elbow, between the seventh and eighth months after injury.—Dr. Beck, of Indiana, reports (*West. Lancet.*) a case of backward dislocation of the fore-arm, at the elbow, in a lad, æt. 7 years, which he was able to reduce between the seventh and eighth months after the injury, under the following circumstances.—While playing, the patient fell upon the arm, flexing it strongly; this

accident broke up the old adhesions, and, on extending and flexing it, the reduction was easily effected.

Extirpation of the Parotid Gland, and Ligature of the Common Carotid Artery.—Dr. D. W. Bliss relates (*Medical Independent*) a case of malignant disease of the parotid gland, for which extirpation was successfully practiced. The patient was a female, æt. 41 years; the tumor was of three years' growth; of the size of half a goose egg; immovable, dense, nodulated; having a broad base, and situated in front of the left ear, being attached to the ramus of the lower jaw. In the progress of the dissection, it was found necessary to ligate the common carotid. The tumor extended very deeply, and gave rise to severe hæmorrhage. The operation was accomplished without great difficulty, and the recovery was attended with no bad symptoms. She died at the end of sixteen months, from a return of the disease.

Removal of the entire Ulna.—Mr. G. M. Jones, of the Jersey Hospital, reports (*Medical Times and Gazette*, December 27,) a case of successful removal of the entire ulna for necrosis. The patient was a female, æt. 25 years, of slight and delicate appearance. The disease was excited by a fall upon the right fore-arm, which was followed by pain, and the formation of an abscess near the elbow; other abscesses formed over the middle part of the ulna, and the entire bone finally became implicated. At the time of her admission to the hospital, "there existed an unhealthy ulcerated surface, about the size of a two shilling piece, immediately over the styloid process, some ten or twelve sinuses from this point to the upper third of the arm; considerable puffiness at the elbow, and boggy feeling at that part; much expansion in some places, depression in others; and a sloughing tendency throughout the soft textures in the vicinity of the different sinuses." An operation was determined upon, which resulted in the removal of the entire ulna, this bone having been found diseased throughout its whole extent. The wound suppurated freely, and, at the date of the record of the operation, had healed, and the patient walked with her arm unsupported. The condition of the arm at this time is thus described:—"the appearance of the arm is such, that no one would imagine the ulna is wanting, the head of the radius has so beautifully adapted itself to the parts, that even manipulation leads one almost to imagine the olecranon still exists; there is considerable movement of the wrist and elbow-joints, of the former particularly." Mr. Jones states that this is, according to good authority, the first recorded case of removal of the entire ulna in England.

Exsection of the Elbow Joint.—Prof. Blackman has reported (*Western Lancet*) a successful operation of this kind. The patient was a female, æt. 24 years, in whom the elbow joint had been destroyed by suppuration. The wound healed very promptly, and six months after the operation, the patient had acquired considerable use of her arm, and it was confidently anticipated that she would finally have a very serviceable limb.

Removal of the entire Scapula.—Mr. Syme removed, on the 1st of October (*London Lancet*), the entire scapula, with its processes and

glenoid cavity, at the Royal Infirmary of Edinburgh. The patient was an elderly female, and the disease was a cystic-sarcomatous tumor. At the date of the report, the patient was doing well, and there was grounds to believe that the arm would become quite useful, though deprived of the shoulder-blade.

MIDWIFERY.

Fatal Hæmorrhage into an old Ovarian Cyst.—By JOHN SODEN, ESQ., F.R.C.S., etc.—Mr. S. was called at midnight to see a lady, æt. 48; healthful in appearance; large and well formed; who, after a long evening walk, had been seized with such severe pain in her left side, that she entered her house with difficulty. The patient was in bed, with anxious countenance; chilly; pulse small and feeble; intense suffering in left hypochondriac region, just over the large end of the stomach; acute sensibility to the touch radiated from this point, with diminishing severity over the abdomen; character of pain that of peritonitis, not hysteria; patient had vomited three times; ejected matters not kept for examination. On the following morning, patient somewhat composed by opium, but the persistent tenderness on pressure rendered minute examination impossible; abdomen more generally sensitive, and becoming tympanitic; no febrile reaction. Next day somewhat better, but on the following not so well; return of sickness, increased tympanitis and prostration; pain more felt around the lower part of the abdomen, but still most marked in its original site; support necessary. After this date, matter vomited contained blood. On the thirteenth day she died from exhaustion.

Post Mortem.—Abdomen greatly tympanitic; traces of peritonitis general, but best marked about region where most pain had been complained of; lining membrane of stomach somewhat congested, but not remarkably so; large cyst, the size of a child's head, a year old, filled with blood, found in "the right pelvic region;" blood dark and partially coagulated; uterus and remaining appendages and other viscera healthy.

When 18 years of age, this patient had been the subject of ovarian dropsy, which "relieved itself by bursting through the bladder."—*Association Med. Jour.*, (*Dec.* 6.)

Sugar in the Urine of Parturient Women, of Nurses, and a certain number of Pregnant Women.—M. Blot has recently presented to the French Academy of Sciences a communication, from which it appears that sugar exists, nominally, in the urine of all parturient women, and in that of all who are nursing, and in that of a certain proportion of pregnant women; that the urine, in all these cases, exhibits, by different tests, properties which belong only to sugar.

In all parturient women, the sugar begins to show itself in the urine, in a sufficient quantity to be estimated at the time when the secretion of milk commences. In most cases, it appears only at this period; but in some instances it is found earlier, but usually in a very small quantity. In nursing women, the quantity of sugar is in proportion to the abundance of the secretion of milk. If this secretion is

diminished, or dried up from any cause, the sugar either diminishes, or disappears completely. Sugar continues to be found in the urine as long as the secretion of milk continues.

The quantity of sugar varies in different women, and at different periods of lactation. The quantity found by M. Blot has varied from fifteen and thirty grains to twelve drachms, to sixteen ounces of urine.

In pregnant women, sugar was found in about one-half of the cases observed; the author believes, without being able to say so positively, that this peculiarity more especially exists, when the sympathetic symptoms of pregnancy in the breasts are well developed.

M. Blot has already commenced some researches upon the females of different species of mammiferous animals, and in nine observations upon the cow, it has occurred in every case.—*Arch. Géner. de Med. Nov.*, 1856.

CORRESPONDENCE.

Rome, February, 12, 1857.

Mr. Editor.—First, among the many attractions to a medical man, traveling abroad, are the hospitals, and public institutions, appropriated to the sick. He can not enter a city of Europe without finding one or more of these institutions of public charity, many of them of immense size, and of such architectural beauty, as to be, in themselves, objects of interest. Many are endowed with princely liberality, and supplied with every convenience for promoting the comfort of its inmates. In visiting them, we can not but admire the respect and sympathy with which the sick are approached; and the care and devotedness with which they are "nursed and tended." Whatever may be the faults of the French and Italians; however thoughtless and trifling, and apparently selfish the former, and indolent and indifferent the latter, their sympathies are easily excited in behalf of the sick and disabled.

Our stay in Paris was so short, that we had not the opportunity of making many visits to the hospitals; short as it was, however, we could not resist the desire to see, once more, the great men of that city. We found Velpeau, Nélaton, Jobert, Ricord, Chassaignac, Rayer, and Rousseau, still occupying their former positions; still lecturing to crowds of admiring students. Nélaton is now looked upon as the first surgeon of Paris. Although Malgaigne, Jobert, Velpeau, Robert, and, perhaps, Laugier, dispute the palm with him; their countrymen may not side with me, in the opinion I have expressed, but all foreigners look upon him as first authority; not only at the hospital, has he acquired this enviable notoriety, but in private practice. Strangers from all parts of the world, seek his advice, and he seldom fails to give satisfaction; he is very conservative, and his success remarkable, but like the rest of mankind, not infallible.

We visited the new hospital, over which M. Chassaignac presides; this is one of the handsomest institutions of the kind in Paris, and admirably constructed for air and ventilation. It is situated in the north-eastern part of the city, near the Northern Railway; it was commenced

by Louis Philippe, but having been endowed by Lariboisiere, a man of wealth, in Paris, was named after him; it is a two story building, inclosing a handsome oblong court, which is tastefully laid out in plots of green turf and flower-beds; an arched arcade, or piazza, passes round it on the inner side, upon which the windows of the wards open. The walls and ceilings are handsomely painted, and the floor highly polished; the beds are clean and tidy, and comparatively few in each ward, which are well supplied with baths, and water arrangements of every description. There is not, in Paris, a better arranged, or a more appropriate building for the purpose for which it is designed, than the Hospital Lariboisiere.

We had an opportunity of witnessing an operation by M. Chassaignac, with his favorite instrument; after a circuit of the wards, we went to the amphitheatre, and listened to a lecture on the uses and advantages of the seton in caries, not only of the spinal column, but in other bones; and, also, in chronic abscesses; when he exhibited to us, by way of illustration, several cases of caries of lower jaw, tarsus, meta-tarsus, carpus, meta-carpus, and, also, abscesses of different parts, and among them, abscesses of the female breast, with setons introduced. He finished his hour by operating on a man for fistula ano, with his much-talked of Ecraseur; the patient had been prepared by wearing for several days a seton of india-rubber. M. C. attached one end of his crushing-saw (if I may call it so) to the seton, and drew it through the fistulous tract, out through the anus, then attached to the handle, tightened it very gradually, and in about one minute, it tore its way out; not a drop of blood followed, and the patient being under the influence of chloroform, felt no pain. In remarking on this procedure, he said that two good results were to be derived from it; 1. There was no hæmorrhage; 2. The inflammation it produced promoted a rapid cure.

Through the kindness of a friend, we obtained the entrée to the great hospital at Florence; the visit, as in Paris, is made here, early in the day, when operations and clinical lectures take place. The Hospital St. Maria Nuova, formerly an old convent, is an immense building, containing beds for one thousand two hundred patients. The wards are very long, very lofty, and very cold; they cross each other at right angles, so that standing at the central point, where they intersect, you look down long radiating avenues of almost countless beds; the ceilings are arched, and the windows very near the top, and seem as if they were never meant to be opened; the floors are made of stone, rough and unpolished; the beds are small, with no curtains, and the whole presented a cheerless, uncomfortable, uninviting appearance. The atmosphere is close and disagreeable, as if not properly ventilated; yet, here is the field where many distinguished physicians labored, and where, at present, M. Rignoli, a man of learning and great reputation, holds his daily clinics. This gentleman is a graduate of the schools of Pisa and Paris, about 60 years of age, and whose intellectual countenance impresses you with his superiority. He arrived punctually, and having been presented to us, he disrobed himself, and put on an india-rubber over-coat, or palêtot, (a very appropriate dress for a hospital surgeon,)

and commenced his visit, accompanied by about twenty students; his examination is after the manner of the best French teachers; questioning closely each patient, with regard to his troubles, and following with a lecture on the diagnosis and treatment. We had an opportunity of judging of his admirable manner, as a lecturer, in the case of a little boy, just brought in, who had some difficulty about the left hip joint; the history was very unsatisfactory, and furnished little, if any aid in arriving at a diagnosis. There were some few symptoms of luxation; after placing him in various positions, first reclining, then standing, and still unable to come to a definite conclusion, he gave a lecture on morbus coxarius, luxation, and abscess, one of which diseases, he felt sure it must be. We saw many interesting cases in his wards, such as strumous testes, artificial anus, which he proposed to operate upon after the Dupuytren method, in a few days; and finally, an operation on a femoral abscess, with a Guérin instrument, which removes the pus, and injects a solution of iodine, without removing it, or exposing the abscess to the air.

We noticed in this hospital, the ponderous dressing, and innumerable roller bandages, in the dressing of wounds, and so forth; but what surprised us, was, that all kinds of diseases were in the same wards; here were affections of the chest and fever, small-pox and dysentery, placed side by side. No classification existed, excepting the separation of surgical from medical diseases. With regard to anæsthetics, they are employed with the greatest caution, and chloroform never used, except in extreme cases. Professor Ranzi, another distinguished surgeon, who fills the chair of clinical surgery, and operative surgery, in the school of medicine, is also connected with this hospital, but we were disappointed in not seeing him; his wards were filled with interesting cases, and judging from the number of students awaiting him, his visits are highly appreciated.

Connected with this hospital is a physiological and pathological museum, and, considering the years it has been in existence, and the number of pupils educated here, it is remarkable that the preparations are not more extensive, particularly in the department of morbid anatomy. Some of the arterial preparations are beautifully made, but there is no variety. The great attraction here is the little table of Segato, who about one hundred years since discovered a method of petrifying human flesh, and offered it to the Government as a means of preserving or embalming bodies, but they not accepting it, he died suddenly without revealing his secret, and no one has been able since to devine the method or process. This little stand or table is made of wood, on the top of which is inserted pieces of intestine, lung, liver, and other viscera, like mosaic work, so well preserved that one can readily discern the kind of tissue in each space. There are in Florence two other hospitals, one for the insane, the other for foundlings.

Nothing in this city pleases us more than the wax preparations in the museum of natural history. These models represent every portion of the human body, with beautiful accuracy. There are, besides, models illustrating comparative anatomy and vegetable life, from the earliest germ to full maturity. The osseous, arterial, and nervous

systems are admirably displayed and the minute anatomy of the different organs are so faithful, that the masterly hand who prepared the dissections, must have possessed the most astonishing skill. So true to nature are they, that students meet here, at all times, to study, and, during the winter, daily lectures are given by the professors to their classes.

We devoted one morning of our sojourn in Naples to the hospital Santa Casa Degl. Incurabili, an unfortunate name for a general hospital. This is an immense building, of large revenues, where both sexes, all ages, and different ranks are admitted. The wards are lofty and spacious, as those of Florence, and built and arranged in the same manner, but the mouldy and dilapidated building itself, its general want of cleanliness and ventilation, its miserable beds and coverings were in striking contrast with the institution in Paris, first described. No particular classification exists here, except in cases of consumption, which is considered contagious, and a separate ward is appropriated to it. The surgical wards having the greatest attraction for us, we repaired thither, and were shown round by a gentleman, one of the attending surgeons, who happened to be making his morning visit. The wards contained many cases of fractures and other injuries, received from the explosion of a powder magazine, which occurred a day or two before our arrival, by which sixty or seventy persons were wounded, and several killed. Dr. Palasciano we found an intelligent and accomplished man, quite an enthusiast in his profession, and perfectly familiar with the reputation and writings of many of our medical men, and held us in great admiration. He showed us several cases of simple and compound fractures, which he was treating with the starch bandage, and he dwelt at considerable length on the importance of position in the management of these accidents. Patients were seen lying on their bellies, some on their sides, and some with their limbs extended, others flexed. Of the good effects of this plan of treatment we were not able to judge, as there were no patients convalescing. He claimed priority in breaking up anchylosed joints and dividing contracted tendons about them, a mode of practice which I thought belonged to Guérin. The museum of this hospital is unworthy such an institution.

There are seven other hospitals in this city, and among them two for the military, all inferior in magnitude and interest. I must not forget to mention while visiting the Museo Borbonico, where are displayed the various and innumerable objects of interest recovered from Herculaneum and Pompeii: we saw the instruments found in the house of a *medical gentleman*, and which proved that the surgeons of those days were skilled in operations, and practiced with weapons not unlike those employed at present. Here were seen probes, directors, scalpels, and bistouries, sharp-pointed and blunt; forceps for extracting teeth, and other purposes; trocars for the operation of paracentesis; lancets for bleeding, and among them a veterinary's phlegm. There were, also, irons for actual cautery, *tri-valved* and *bi-valved specula* like those now in use, and a male catheter shaped like the old style letter S. Among them, also, were to be seen slabs for making pills, and a

box divided into compartments, containing ointment and different medicines, and some pills of *heroic size.*

In no city in Italy are the hospitals richer or more liberally endowed than in Rome; deriving their incomes from property bequeathed, the papal treasury, and from large tracts of land which have been in their possession for years. There are six in this city, including one for the insane, and can furnish accommodation for between four and five thousand patients; St. Spirito is the largest, covering a large area of ground, and consisting of several buildings, among them one for foundlings; a considerable number of medical officers are connected with it as resident and attending physicians. Through the politeness of Dr. Valery, Professor of Pathological Anatomy, we were taken around the different wards, presenting very much the same appearance as those of Florence and Naples, except they were larger and higher, and having four rows of beds instead of two. Our professional brother, feeling a laudable pride in the institution, took us into almost every room, even to the kitchen and provision department, pointed out the excellent arrangements for the comforts of the sick, which surpassed those of any other establishment we had visited.

M. Lancisi, who, many years ago, was attached to this hospital, in both senses of the word, in heart and profession, left it a large sum of money, provided the directors would supply it with pure water. Accordingly, that important element is brought thirty-five miles expressly for its use, and it is the clearest and purest water I ever tasted. In a cabinet belonging to the museum, we noticed a great variety of calculi, some of very large size; upon inquiry, we learned that there are many patients operated on in Rome, for stone, most of whom are non-residents. The water of Rome is so pure and healthy, at the present day, that very little of that disease is met with in the city.

The museum is not large, but very choice; besides many wax models, there are to be seen the most perfect dissections of the arterial and nervous system, and great variety of unique morbid specimens. The dissecting rooms are very convenient, and in them we found students pouring over pathological material and engaged in other investigations. There is an arrangement in the dead-house here, which I believe is unusual. The bodies are placed upon tables near the wall, upon the wrist of each there is an iron band, to which is attached a cord connecting with a bell in an adjoining room, so that if any, supposed to be dead, should revive, they may give indication immediately of the mistake. This contingency has never occurred. Tied, also, to this band is a placard, upon which the day and hour of death is written, and twenty-four hours must elapse before an autopsy can be made. We found that no classification was adopted in this hospital, like the others; all diseases are together in the same ward. When small pox prevails alarmingly, the cases were isolated. At the time of our visit, measles was prevailing, yet, they were among the other cases of disease. This struck us as being very singular, that, in so large a hospital, different apartments could not be used for these cases; but notwithstanding this, the mortality is only ten per cent.

The surgical hospital proper is situated in another part of the city,

and is conducted in the same manner. It is much smaller, and receives only surgical cases. M. Constantini is the visiting surgeon, and enjoys a high reputation as an operator. We were unfortunate in not witnessing any operations at this establishment.

With regard to medical education in Italy, the advantages are very great, not only in clinical instruction, but at the different universities where medical lectures on every subject are given by distinguished professors. If the advantages are great the requisition on the part of the students are proportionably so; no student can commence the study of medicine, without a proper preliminary education. He is obliged to attend four years' instruction at the medical school, and submit to an examination at the end of each year; and before graduation as an M. D., he must enter a hospital as a clinical student, and remain there two years more, making, in all, six years of study.

The universities of Pavia, Padua, and Pisa *now* stand the highest. There are, also, good medical schools in Bologna, Rome, and Naples, but not of such reputation as those above named. The schools of Pisa and Florence are somewhat connected. The first years of education are derived from the university of the former place; the clinical instruction from the latter. But Pavia, Padua, and Pisa, "stand not where once they did;" instead of three hundred students—as at present—thousands crowded there, attracted by the reputation of a Scarpa, or a Morganni, to say nothing of those learned female professors, "whose beauty was so striking, that a curtain was drawn between them and their audience,"

> "Lest if these charms were seen, the students
> Should let their young eyes wander o'er them,
> And quite forget their jurisprudence."

Notwithstanding the number of medical men in the city of Rome, and great number of rare and interesting cases in the different hospitals, there is no medical society or periodical.

Much has been said and written on the climate of Italy; during our sojourn here, we have made many inquiries on this head, and, derived from this and our own personal experience, we come to the conclusion that Florence, in the winter, is not a residence for invalids, especially those laboring under pulmonary complaints. The temperature varies, and there is an element of dampness and chilliness in the air very penetrating. It rains frequently, and often snows, and I have heard invalids complain of the effect of these changes upon them; many are obliged to leave, and seek a more genial atmosphere.

Naples, although at certain seasons of the year perfectly charming, has not been recommended to pulmonary patients. There is a dryness in the atmosphere, and at times cold winds prevail, which is very unpleasant. Sir James Clark says:—"The autumn and winter are generally mild, and the spring is subject to cold, sharp, irritating winds, rendered more hurtful to invalids by the heat of a powerful sun." Neither is the climate of Rome so warm and genial as I was led to suppose; there is at times a balminess and softness in the air, which is very grateful, but it is subject to sudden transitions of temperature,

besides, in winter there is more or less rain; yet, invalids who are here for pulmonary disease, tell me they are better in Rome than other residences, particularly those who have bronchial affections—dyspeptics and persons with nervous disorder, can not remain here any length of time without aggravating their complaints.

Among the distinguished Americans who are sojourning here this winter, are Dr. William Gibson, and Thomas D. Mutter, both former professors of surgery, from Philadelphia, the former in the University, the latter in the Jefferson school. Both of these gentlemen are fine representatives of American surgeons, and are receiving attention due their distinguished reputation. Within a few months, Dr. F. W. Sargent, formerly of Philadelphia, has come here to reside and practice his profession. He is highly appreciated by our countrymen, and if great accomplishments, industry, and kind attention deserves success, I bespeak for him a distinguished career as the American Physician in Rome. C. D. S.

Feb. 22, 1857.

My Dear Doctor:—I have lately derived much benefit in the treatment of sprue from a solution of borax in glycerine, the former being in the proportion of one-third. My first case occurred in November last, some troublesome cases of excoriated nipple under my care have healed kindly under the same application; it is advisable, however, to teach the child to nurse through an artificial nipple, while cicatrization is taking place. Needham's has seemed to me preferable to any other. These cases have encouraged me to brush the solution over ulcerations of the os uteri, some details of which may be given hereafter. Never having seen the combination suggested in these cases, I mention it in the hope that it may prove useful on more extended trial. Yours faithfully,

Dr. Stephen-Smith. George T. Elliot, Jr.

Bellevue Hospital—Circular of the Board of Governors.—The following circular has been issued by the Board of Governors to the medical profession, for the purpose of calling attention to the advantages which Bellevue Hospital presents for the practical study of medicine. That New York has facilities for medical instruction far superior to any other city in this country, can be easily demonstrated, but heretofore such material has been difficult of access. It is very gratifying, therefore, to witness the liberal and enlightened policy of the Board of Governors, not only in throwing open the wards of this immense hospital to the free admission of medical students, but in issuing this circular, inviting the profession at large to participate in the advantages which it offers.

Circular.—For the purpose of making known to the American medical public, the means of instruction placed within the reach of students at the Bellevue Hospital, of the city of New York, the Governors and Medical Board of the said institution make the following statement:—

This hospital, under the direction of the Board of Governors of the Alms House, is a spacious and completely appointed building, arranged with special reference to the hygienic comfort of the inmates, and furnished with every means and appliance for the treatment of the sick. It is situated on the East River, between Twenty-sixth and Twenty-eighth streets, having for the western boundary of its ground the First Avenue. Its locality thus secures for it the two great desiderata—isolation, and abundance of pure air. It is now undergoing alterations, soon to be completed, by which it will be made to accommodate fourteen hundred patients. The medical service of the institution is performed by a board of physicians and surgeons, four of whom are on daily duty, visiting the wards regularly at appointed hours, and affording to such students as may choose to take advantage of the opportunity, very rare facilities for the study of practical medicine, of pathological anatomy, and of surgery in all its branches. There is, also, a Lying-in Department, amply provided with material for instruction in the art of obstetrics. Between three and four hundred deliveries take place annually. In the hospital grounds is a very commodious building, lately erected in which post mortem examinations are conducted under appropriate superintendence.

The building also contains a lecture-room, capable of seating three hundred persons, in which demonstrations of morbid anatomy, in connection with pathology, are given by the lecturers on duty. Here, too, lectures on surgical anatomy and operative surgery, which are abundantly illustrated, are given. Over four hundred students during the past year were in attendance on the lectures of this institution.

The museum, already rich in valuable specimens, will be enlarged by future additions. Contributions to it, with histories of specimens, addressed to John W. S. Gouley, M.D., Curator, Bellevue Hospital, New York, will always be gladly received and placed in the museum to the donor's credit.

The internal service of the hospital is conducted by a house staff, composed of four house-physicians and two house-surgeons. Each of them is assisted by a senior and junior, in the performance of his duties; they are selected from such candidates as present themselves for examination before the committee of the medical board, the invariable rule being to choose those best qualified for the post, from the number examined. The house staff, residing in the building, is boarded and lodged gratis. No fee is required from students for attendance. To entitle them to the privilege of the hospital, it is only necessary to enter their names in a register kept for this purpose. To those who have attended a certain course of instruction, a diploma is granted, the fee for which (five dollars) goes to the support of the museum. The great want of American medical students is *clinical education properly conducted.* It is believed by the Board of Governors and the Medical Board, that Bellevue Hospital will do its share towards supplying this hitherto acknowledged want. They feel happy in being thus able to contribute to the cause of sound, thorough medical education for the sake of humanity.

Complimentary Resolutions.—We have before alluded to the admirable course of lectures on surgical anatomy, and the operations in surgery, delivered during the last winter at Bellevue Hospital by Dr. James R. Wood. The following complimentary, but merited, resolutions were passed, at the conclusion of the course, by the large class in attendance:—

New York, February 21, 1857.

Dr. James R. Wood.

Dear Sir:—At a meeting of the house staff and students of the several medical colleges, attendant on your instructions at Bellevue Hospital, held February 14, 1857, Bolling A. Pope, M.D., was chosen President, and John G. Johnson, Secretary, of the meeting. A committee was, also, appointed of two from each of the colleges, who, in connection with the officers of the meeting, should draft a series of resolutions, expressive of the feelings of the meeting toward you, which committee was to report at a subsequent meeting.

At a meeting holden this day, February 21, the committee reported the inclosed series of resolutions which were unanimously adopted.

I take great pleasure in forwarding them to you, representing as they do the sentiments of nearly four hundred students who have attended your clinics this winter.

I am, Sir, very respectfully yours,

John G. Johnson, *Secretary.*

By the members of the house staff and the students of the several medical colleges in attendance on the clinical instruction at Bellevue Hospital

Resolved, That, while fully appreciating the valuable instruction and kind consideration received from the other members of the visiting staff lecturing at the hospital, the untiring and disinterested efforts of Dr. James R. Wood, who, bound by official ties to none, has labored so earnestly and so effectually for all, demands some special recognition on their part.

Resolved, That among those eminent men in the profession whom they have learned to honor, Dr. James R. Wood is entitled to place among the highest in their esteem and respect

1. Through the example he has afforded of devoted enthusiasm in the profession, and of indomitable energy in the promotion of its interests, which personal efforts and sacrifices have never wearied, and whose fruits they now enjoy in the legalization of practical anatomy, and in the facilities for pathological and anatomical study afforded by the pathological rooms at Bellevue Hospital;

2. Through the demonstrative instruction he has given in the theatre and in the pathological room upon the patient and upon the subject—by concise and lucid lectures—by skillful grouping of cases, and by delicate operations in the higher departments of surgery;

3. Through the inducements he has offered to the attainment of excellence in anatomical studies, by the establishment of munificent prizes open to unrestricted competition;

4. Through the influence he has exerted in inducing and in cultivating sentiments of professional sympathy and regard, and by his own precepts and example in ignoring all invidious distinctions in honorable and recognized schools, receiving all alike on one ground of equality, fellow-students in medicine.

Resolved, That this series of resolutions, the joint offering of the house staff of the students in the College of Physicians and Surgeons, in the University Medical College, and in the New York Medical College, be presented to Dr. Wood in token that these things have not been unheeded or uncared for, but

have been treasured in memory to become in after life prominent among the more pleasing reminiscences of early study, and that even in this unsubstantial form their gratitude is real.

(Signed,) BOLLING A. POPE, M.D., *President.*
JOHN G. JOHNSON, *Secretary.*

CHAS. PHELPS, H. G. COOKE, Coll. of Phys. and Surg.; GEO. S. HARDAWAY, CHAS. M. CLARKE, Univer. Med. Coll.; J. M. FARRINGTON, G. T. HOUGH, New York Med. Coll.

RESIGNATION OF THE SENIOR EDITOR.—With the close of the present fiscal year of the Journal, the undersigned resigns his editorial connection with the work; and in taking leave of its contributors and subscribers who have raised it to its present position among the medical periodicals of the country, he would here record his acknowledgment of great obligations. As circumstances of a favorable character, relating to his duties as a private practitioner, have required him to take this step, he is pleased to say that he still feels a deep and abiding interest in the success of the work. For nine years he has devoted all the leisure hours which could be obtained from active practice to its pages; and if at all times it has not shown an amount of editorial labor pleasing to him, it has had, at least, the merit of receiving a support from contributors unequaled in the history of medical journals in this city. In regard to its future management, he is happy to state that the proprietors have secured the editorial services of his able colleague, DR. STEPHEN SMITH, with whom for several years past he has been associated, and who has now at his command elements of success, which secure for the *Journal* a future equal to what it warmest friends have ever hoped.

S. S. PURPLE.

The connection of the subscriber with the New York *Journal of Medicine* has been of so short duration, that a notice of his withdrawal from its editorial management would seem hardly to be called for.—He deems it but justice to himself, however, to say, that this connection was intended on his part to be but temporary, and to continue only so long as should be required to effect an arrangement which should promise to be both permanent and satisfactory. Such an arrangement he believes to have been secured; and that, in the hands of DR. STEPHEN SMITH, upon whom the sole editorial responsibility devolves, the *Journal* will continue to merit that large share of the confidence of the profession which it now enjoys, to which the talent and labors of Dr. S., in connection with the devotion and perseverance of DR. PURPLE, its senior editor, have so largely contributed. He withdraws with feelings of warm interest in its success, and will labor with pleasure for its advancement. H. D. BULKLEY.

OBITUARY.

DEATH OF DR. E. K. KANE.—The committee appointed at the meeting of the Academy of Medicine for March, to prepare suitable resolutions respecting the death of Dr. E. K. KANE, reported on the 3d of April. Dr. J. W. FRANCIS, the Chairman, stated that, since the Academy had done him the honor of appointing him to this duty, he

had departed from his usual manner, and had prepared some imperfect expression of his feelings. Dr. FRANCIS proceeded to read as follows:—

As a member of the committee appointed by the Academy, to offer for your adoption, should they meet your approving decision, resolutions on the death of the late Dr. ELISHA KENT KANE, I can scarcely withhold a remark or two on this melancholy occurrence. The occasion is one of profound consideration; the lamentable fact of his early death has now become widely known; and wherever known, is regretted with a sorrow that has scarcely limitation, and is felt as almost a personal bereavement. The expressions of that grief have been already diffused throughout our vast Republic; and never has an individual character, unassociated with the dignities of high official station, received loftier commendation from the National voice. His death seems to have reached the hearts of the entire American people, and will, doubtless, be sympathized with by the wise and the good of the Eastern world. I consider the late Dr. KANE to have been one of the most remarkable men of his time, and to have already been recognized as such. His physical and mental energies are hardly to be found recorded on the ample page of biography. With a constitution singularly delicate and refined, with a corporeal development that gave no special tokens of great muscular strength, of a size below the ordinary hight—slender, susceptible, and of quick movement—he evinced a power and capacity for laborious service, and marvelous endurance in trial, beyond that which the stoutest and the strongest have shown. Though what might be popularly called a diminutive man, he was of fair proportions, of compact elements, comely and attractive in appearance. I betray in no wise the confidence and friendship, when I state—what I derived from his own lips, just before his last departure from New York—that his greatest weight had been ninety-seven pounds, and that during a portion of his Arctic career it did not exceed ninety-three pounds.

His intellect was of a peculiar order—alert, rapid in combination, and of a large forecast. He was analytic and synthetic. His range of thought was wide, his combinations singularly immediate. The simple and the compound were equally open to his perceptions. Early disciplined in the schools of literary and scientific instruction, with such faculties, his acquisitions were great and various. To a fair scholarship in the ancient languages, he added the sciences of astronomy, navigation, natural history—in its several relations of botany, mineralogy, geology, chemistry—and the department of physics which fall within the compass of a liberal medical education. He was an artist; he was an ethnologist. He was a searcher after truth, an explorer of the mysteries of nature, and periled life in his devotion, with the daring of a soldier and the stimulus of a scientific adventurer. He studied philosophy as the handmaid to useful purposes. His confidence rarely halted, however surrounded with difficulties. On the contrary, unexpected occurrences were no obstacles, but met with new devices, and assurances of hope presaged in the midst of conflicting issues. He was a mighty traveler; had seen men and cities widely remote; had borne vicissitudes of divers climes, and miraculously survived the assaults of pestilence in its most hidden forms. China, India, and Ceylon, the Pacific and her isles, Egypt and the Nile, loathsome Africa, lovely Greece,

Mexico and her antiquities, were his preparatory trials. Nothing that unfolded the handiwork of nature was ever indifferent to him. He contemplated a pebble—he surveyed a pyramid. He was a disciple of God's garden. It was rare, indeed, that you encountered an individual of his cosmopolitan experience. His conversational talents were most engaging; terse in description, and sententious; prompt in utterance, and discriminative; he secured an audience at will, while the convictions of his own belief, and his ample knowledge, led captive the auditor of his eloquent logic.

As his speech was glowing, so too we find his writings; clear and vigorous, united with a bewitching rhetoric, at once enlarging our comprehension and fathoming the heart. No writer of fiction has assumed a finer sentiment than he betrays in his narrative of the Arctic explorations. His work has become a fireside companion, and the icy world grows familiar as the parlor story or the devotional hymn. Youth forsakes his school-boy recreations to study its astounding incidents, and listening old age marvels how long it has been kept ignorant of the wonders of Providence. Tears are shed at the record of his multitudinous hardships—how many have burst from his own anguished eyes at the sufferings of mortals he has met amid the vicissitudes of his adventurous life.

Dr. Kane was too guileless to be able to conceal the benevolence of his nature, and his manly sensibility gushes forth spontaneously whenever the noble instincts of humanity are summoned into action. I am told he was a rapid writer; that he sequestered himself, after his last return, within the apartments of his library, greatly to the detriment of his already wasted health, in order to bring forth his captivating volumes, at a brief summons, for the gratification of an anxious public; and it is wonderful to think that while in the Arctic regions, with all its horrors, with his disabled crew, and himself wearied and the victim of disease, he could have penned such beautiful thoughts, so abounding in imagery and in description, always subjected to a harmoniously religious meditation. How eminently practical he was in every need, in every reverse! How admirably he preserved the integrity of those three special rules which he adopted upon his embarkation! They were rigidly adhered to, through all the vicissitudes of the expedition. He adds, "We had no other laws."

I have spoken of his physical powers and of his intellectual qualities; let me glance at those of the heart. That organ, which I may say constitutes the microcosm of man in his social state, in Dr. Kane was, by nature, tender and devotional, and, by culture, had become possessed of the great elements of christian philosophy. Modesty and humility found favor within his breast. With a fortitude and a perseverance that would have entitled him to the admiration of a Zeno, he had the winning simplicity and tenderness of the gentler sex. In his most familiar converse, no word dropped from his lips at which even fastidious modesty could be annoyed, and to his own transporting achievements he rarely made reference unless to satisfy the curious inquirer; for, be it understood that the interests of humanity far outweighed, in his generous bosom, commercial extension or geographical knowledge. The

plaudits of mortals were less in his estimation than the approving smiles of heaven. He was in the amplest acceptation of the term a philanthropist. While memory retains her seat, so long shall I cherish the recollection of his enthusiastic utterance to his noble friend Henry Grinnell, in reference to the then still hopeful prospect of the recovery of Captain Franklin and his companions. It yields untold comfort to my anxious mind, involved in the cares of professional toil, sometimes to remember that while a child I had seen Alexander Mackenzie, the first white man who tracked his way across the Rocky Mountains, and gazed upon the Pacific Ocean; that I cherish a personal knowledge of Captain Franklin and his companions and biographer, Dr. Richardson; and that KANE, our American explorer, who was the first who came within sight of the great Polar Sea, can be recorded as a personal friend.

The eloquent and able eulogist, the Rev. C. W. Shields, in his thoughtful and appropriate address, at the interment of DR. KANE, has beautifully said, "Let us believe that a faith which supported him through trials worse than death, did not fail him when death itself came." Another intimate friend of Dr. KANE thus expresses himself: —"But above all, governing and guiding all, there was a spirit of true christian benevolence and christian dependence. This it was that nurtured and sustained him in times of his greatest suffering and anxiety; this it was that gave him firmness, confidence, and power, before which the modest spirit bowed." Testimony abounds that, though weakened and worn to an extreme degree, his mind rose superior to his physical sufferings, and preserved his faculties entire; that he was conscious of his approaching end, and prepared for the change. His christian confidence wavered not; the benignity of his nature was edifying throughout all his sufferings, and one of his very last expressions was, that he held in little estimation that man who was afraid to die. DR. KANE adds another imperishable name to the long catalogue of the members of the noble faculty of physic, who, in their lives and in their deaths, have enriched the panoply of faith by labors in humanity, and who, by their writings, have demonstrated the excellence of the christian's hope.

The following resolutions were then presented by Dr. McNulty:—

Resolved, That while the nation recognize, in the explorations of DR. KANE, services honorable to the country and auspicious to humanity, we, his professional brethren, deplore his early death, as a loss to our entire profession, of which he was one of the most distinguished ornaments.

Resolved, That the benevolent enterprise, and the scientific enthusiasm he so nobly manifested, are the great principles of action which sustain the character of our profession, and reflect glory on its members.

Resolved, That the self-devotion, assiduity, and moral courage of the navigator, were combined in him with the human sympathies and the subservient study of the philosophic physician.

Resolved, That the valuable contributions to natural history, to navigation, astronomy, and the laws of hygiene, as affected by the extremes of climate, made by Dr. Kane in his Arctic researches, and their deeply interesting record, place him among the most eminent cultivators of practical knowledge on the roll of modern physicians.

Resolved, That while we honor him as a man, we mourn him as a brother, and deeply sympathize with his afflicted family, to whom, in token of sincere and respectful condolence, a copy of these resolutions be transmitted.

JOHN W. FRANCIS, M.D. A. CLARK, M.D. J. MCNULTY, M.D.

INDEX TO VOL. II.

THIRD SERIES.

A.

PAGE

Abscess, cases of post-facial..... 147
Academy of Medicine, offices of.. 282
Acad. of Med., proceedings of 99, 366
After pains, metastatic..... 287
Agnew's Anatomy, notice of..... 127
Albuminuria, cases of..... 68
American Medical Association... 282
Am. Med. Assoc., transactions of. 115
Amylene..... 399
Anatomical preparations, prizes. 142
Anatomy of pleura..... 366
Anatomy, notice of Agnew's..... 127
Anatomy, notice of Wilson's..... 127
Aneurism of innominata..... 238
Aneurism of arch of aorta..... 252
Aneurism of left ventricle..... 113
Aneurism of external iliac artery 50
Anus, imperforate, operation for. 21
Aorta, aneurism of..... 252
Appendix vermifor. perforation.. 248
Asphyxia, ready method in..... 259
Artery, ligature of common iliac. 50
Atlas of cutaneous diseases..... 127
Ayres, rupture of spleen..... 365
Ayre's contributions to surgery.. 9

B.

Baker, removal of uterine tumor. 270
Bartlett on fevers, notice of..... 126
Baths, localization of..... 182
Bauer, colloid tumor 246
Bauer, aneurism of aorta..... 252
Bauer, iodine in joints..... 282
Bayne, gastrotomy..... 280
Bee, sting of, fatal..... 339
Belladonna, effect on milk..... 129
Bellevue Hospital, teaching in... 142
Bellevue Hospital, practice of. 82, 229
Bellevue Hospital, circular of.... 408
Bennett's cysts in kidney..... 109
Bladder, cancer of..... 357
Bladder, sacculated..... 358
Brain, paralysis from solidity of. 243
Brain, serum in ventricles of..... 245

PAGE

Breast, duration of cancer in.... 130
Bright's disease, case of..... 349
Brooklyn Hospital, history of.... 92
Brooklyn Hospital, practice of... 94
Brown Séquard, lectures of..... 142
Buck on post-facial abscess..... 147
Buck, cancer of bladder..... 357
Bulkley's practice of N. Y. Hos'l 219
Burge on fracture of thigh..... 322

C.

Camman's substitute for cod oil.. 139
Camman's double stethoscope.... 139
Cancer outside of stomach..... 360
Cancer of breast..... 130
Cancer of bladder..... 357
Cancer, nature of colloid..... 129
Caoutchouc, diseases of workmen 129
Carpenter on microscope..... 396
Cerebellum, tubercle in..... 255
Cervix femoris, fracture of..... 295
Chamber's on Digestion, notice of 124
Chlorine injection into pleural cav. 229
Clark's case of gangrene..... 341
Clark on puerperal fever..... 370
Clark, single heart..... 108
Clark, fungus cerebri..... 108
Clark, ovum and membranes..... 244
Clark, œdema glottidis..... 257
Clark, supra renal capsules..... 257
Clark, cancer..... 360
Clavicle, statistics of fracture of. 380
Clavicle, removal of portion of.. 16
Clavicle, fracture of..... 399
Cock, on abscess of ovary..... 247
Cod-liver oil, substitute for..... 139
Cold, application to body..... 190
College of Phys. Surg., history of 163
Colloid tumor, of os femoris..... 246
Conant's case of ovarian tumor.. 240
Conant's removal of maxillæ.... 245
Contributions to practical surgery 9
Correspondence 137, 402
Corson on hiccough..... 264
Cox's case of cystic kidney..... 109

PAGE
Cranium, fracture of base of..... 83
Crania, varieties of..... 34, 99
Crane, Dr. J. L., death of..... 146
Cutaneous diseases, notice of.... 127
Cyanosis, case of..... 113
Cysticercus cellulosa, case of..... 194

D.

Dalton, uterus and appendages... 352
Dalton, infant's heart..... 353
Death of Dr. David Green..... 145
Death of Dr. W. C. Wallace..... 146
Death of Dr. J. L. Crane 146
Delafield's historical discourse... 163
Detmold's case of hydrocephalus 111
Diabetes, case of..... 224
Digestion and its derangements, 124
Disarticulation of lower jaw..... 283
Dislocation, reduction of old..... 399
Douche, premature labor induced 331
Draper's perforation of pleura.. 229
Draper, red line of gum in phthisis 62
Draper, report of cases..... 378

E.

Ecraseur, removal of tumors with 131
Elbow, dislocation of..... 399
Elbow, exsection of..... 400
Elliot on induction of labor. 54, 331
Elliot, cyanosis 113
Elliot, aneurism..... 113
Elliot, heart and aorta..... 355
Elliot, hip-joint..... 357
Elliot's obstetric selections.. 132, 279
Elliot, letter from..... 408
Ethnology, McElheran on 30
Ethnology, new work on..... 143
Examiner, Philadelphia..... 144
Excision of knee-joint..... 130
Extension in fracture of thigh... 322
External iliac artery, ligature of. 50
Extra-uterine fœtation, case of.. 237

F.

Femur, fracture of neck..... 295
Femur, colloid tumor of..... 246
Femur, dislocation of..... 399
Fever, puerperal..... 368
Fever, typhoid in N. Y. Hospital. 220
Fever, remittent, in children..... 105
Fevers, notice of Bartlett on.... 126
Fibrous tumor, case of..... 238
Finnell, absorption of skull..... 108
Finnell, meningitis..... 108
Finnell, fibrous tumor..... 111
Finnell, peritonitis..... 111
Finnell, scirrhous tumor..... 111
Finnell, extra uterine fœtation... 237
Finnell, larynx of suicide..... 347

PAGE
Finnell, fracture of rib..... 348
Finnell, heart and liver 363
Finnell's case of poisoning..... 140
Flint, physical diagnosis,..... 125
Fœtation, extra-uterine..... 237
Foramen ovale patulous..... 353
Fracture of cervix femoris..... 295
Francis on puerperal fever..... 368

G.

Gangrene, senile..... 254
Gangrene, case of..... 341
Gastrotomy, case of..... 280
Glottis, œdema of..... 257
Goolden's effects of belladonna.. 129
Green, David, death of..... 145
Gum, red line of, in phthisis..... 62
Gun-shot wound..... 353
Gun-shot wound of heart..... 363

H.

Harris' serous effusion into brain. 245
Hall's ready method..... 259
Hæmorrhage, pulmonary..... 233
Heart, foramen ovale patulous... 353
Heart, single..... 108
Heart and aorta..... 355
Heart, gun-shot wound of..... 363
Heart, fatty degeneration..... 250
Heat, application to body..... 190
Henderson, exam. of recruits..... 398
Hemorrhoids, removal of..... 131
Hernia cerebri, case of..... 83
Hernia cerebri, examination of... 100
Hip-joint disease.....357, 363
Hiccough..... 264
Hip, rheumatic arthrites of..... 112
Holland's medical notes..... 398
Holton's correspondence..... 139
Human frame, development of... 30
Hutchison, concretion in rectum. 258
Hutchison, hydrophobia..... 351
Humerus, comminuted fracture of 24
Hydrophobia, cases of.....215, 351
Hydrocephalus, fluid from..... 111

I.

Iliac artery, ligature of..... 50
Iliac fossa, abscess in..... 147
Innominata. aneurism of..... 238
Insane, relation profession to.... 205
Intestines, death by strangulation
Infant, pulmonary hæmorrhage.. 233
Iodine, injection into joints..... 252
Iodoform..... 128
Iodine, new preparation of..... 128
Iodine in vomiting..... 134
Isaacs, removal of jaw..... 283
Isaacs, perineal section..... 364
Isaacs, anatomy of pleura..... 366

J.

PAGE
Jaw, necrosis of..... 283
Jaw, lower, cases of fracture of.. 87
Jaw, lower, removal of..... 283
Johnson on fracture of femur... 295
Joints, injection of iodine into 252
Jones, review of works by..... 270

K.

Kane, Dr. E. K., death of..... 411
Kidneys, serous cysts in..... 109
Kidney, horse-shoe form..... 360
Kilian on pelvic deformities..... 389
Knee joint, excision of..... 130

L.

Labor, induction of premature 54, 331
Lancet, Western..... 144
Larynx, vegetations in 251
Larynx of a suicide..... 347
Laycock's lectures..... 397
Laudanum, poisoning by..... 259
Lewis' case of poisoning..... 259

M.

Markoe, necrosis of jaw..... 253
Markoe, senile gangrene..... 254
Markoe, tubercle in brain..... 255
Markoe, Bright's disease..... 349
Materia Medica, notice of..... 125
Maxilla inferior, fractures of.... 87
Maxillary bones, necrosis of.... 245
Mayor on localization of baths.. 182
Medical retrospect..... 145
Medical profession, the insane... 203
Medical schools in U. S..... 143
McElheran on human frame....30, 99
Meigs, notice of obstetrics..... 127
Meningitis, case of..... 108
Metcalfe, fatty degeneration heart 250
Metastatic after pains..... 287
Microscope, Carpenter on..... 396
Milk, arrest of, by belladonna.... 129
Monkey, tubercles in..... 363
Mortality in New York..... 144

N.

Necrological tables..... 144
Neligan's atlas, notice of..... 127
New York Hosp'l, practice of 65. 219
New York State Med. Soc..... 282
New York Path. Soc., officers of. 282
New York Hospital, history of... 65
New York Hospital, report of... 409
Nivison's case of sting of bee... 339
Noeggerath, metastatic after pains 287

PAGE
Noeggerath's analysis of Kilian.. 389
Nymphomania, case of..... 132

O.

Obituary notices..... 145, 412
Obstetric selections..... 132
Obstetrics, notice of Meigs'..... 127
Ovary, cyst of..... 248
Ovarian cyst..... 401
Ovarian disease, cases of..... 221
Ovarian tumor containing hair... 240
Ovarian tumor, removal of..... 241
Ovum and membranes..... 244
Ovary, abscess of..... 247
Œdema glottidis..... 257

P.

Paget on cancer of breast..... 130
Parrot, phthisis in..... 248
Paralysis, from solidity of brain.. 243
Parotid, extirpation of..... 400
Path. Soc., proceedings of 108, 237, 347
Peaslee, ovarian tumor..... 241
Peaslee, general paralysis..... 243
Peaslee, phthisis in a parrot..... 248
Peaslee, ovarian cyst..... 248
Peritonitis from perforation..... 111
Peters, tubercles in a monkey.... 363
Phthisis in a parrot..... 248
Phthisis hydro-pneumothorax in.. 229
Phthisis and pneumothorax..... 231
Phthisis, death by hæmorrhage... 233
Phthisis, red line of gum in..... 62
Pleura, cases of perforation of... 229
Pleura, anatomy of..... 366
Pneumonia, infantile..... 262
Poisoning, case of..... 140
Pope, phthisis in an infant..... 233
Post's case of varicocele..... 347
Pregnancy, cure of vomiting in.. 134
Puerperal tetanus..... 132
Puerperal convulsions..... 266
Puerperal fever..... 368
Pumpkin seeds against tænia.... 229

R.

Recruits, Examination of..... 398
Rectum, concretion in..... 258
Reduction of old dislocations.... 399
Reese on puerperal fever..... 375
Resolutions, complimentary..... 410
Reynolds, rupture of uterus..... 231
Rib, fracture of..... 348
Reynolds' case of hydrophobia... 215

S.

Sacculated bladder..... 358
Saunders, perforation of pleura.. 229
Saunders, red line in phthisis.... 62

	PAGE
Sayre's case of fibrous tumor....	238
Scapula, statistics of fracture of.	384
Scapula, removal of.....	400
Schilling, cysticercus cellulosa..	194
Scirrhous tumor.....	111
Sewall's reports of cases.....101,	266
Shoulder, gun-shot wound of.....	16
Skull, fracture of.....	83
Skull, absorption of.....	108
Smith on infantile pneumonia....	262
Smith, remittent fever in children	105
Smith on puerperal fever.....	369
Snow on amylene	399
Society Statistical Medicine..101,	259
Spleen, rupture of.....	365
Stethoscope, double self-adjusting	139
Stephen-Smith on fractures.. 82,	380
Sterility, case of.....	134
Sting of bee, fatal.....	339
Stomach, review of Jones on....	270
Stomach, cancer outside of.....	360
Stricture of urethra.....	364
Sugar in urine.....	401
Supra renal capsules, disease of.	257
Syphilis treated by iodine.....	128

T.

Tænia, expulsion by pumpkinseeds	229
Tetanus, cases of.....	101
Tetanus, cases of puerperal..132,	135
Thigh, apparatus for fracture of..	322
Thigh, adipose tumor of.....	27
Trephining, case of.....	83
Tubercle in cerebellum.....	255
Tubercles in a monkey.....	363
Twins, case of locked.....	137

U.

Ulna, removal of.....	400
Urethra, stricture of.....	364
Uterus, cancer of.....	258
Uterus, removal of.....	270
Uterus rupture of.....	281
Uterus and appendages.....	352

V.

Vaccination, effect on mortality.	130
Van Buren, ligature of iliac....	50
Van Buren, gun-shot wound	353
Van Buren, hip-joint disease.....	363
Varicocele, operation for.....	347
Vegetations in larynx.....	251
Vertebræ, dislocation of.....	9
Vomiting in pregnancy.....	134

W.

Wallace, Dr. W. C., death of.....	140
Watts, vegetations in larynx....	251
Weber, appointment of.....	142
White, letter from.....	140
Wilson's Dissector, notice of.....	127
Winchell's notes on insanity.....	205
Wood, enormous aneurism.....	238
Wood, sacculated bladder.....	358
Wood, horse-shoe kidney.....	360
Wood's Materia Medica, notice of	125
Wright's case of arthritis of hip.	112